Hazardous Waste Generator Handbook

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A Guide to Complying with
Kansas Hazardous Waste
Generator Regulations

Kansas Department of Health and Environment

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DISCLAIMER:

This handbook supercedes all previous editions of this publication.

The information contained in this handbook is an overview of the hazardous waste management program in Kansas. The state and federal regulations should be consulted for more detailed information.

The lists of specific suppliers of goods or services included in this handbook are not intended to be inclusive; nor should they be considered an endorsement of a particular supplier.

Hazardous Waste Generator Handbook

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I. Background

The first effort to regulate hazardous waste management on a national level occurred in 1976 with the passage by Congress of the Resource Conservation and Recovery Act (RCRA). The primary goal of the Act was to encourage the conservation of natural resources through resource recovery. RCRA also provided the statutory basis for the federal hazardous waste regulations. The regulations that have evolved into the current regulatory program were first issued in May of 1980. A key section of the Act provided for states to operate the hazardous waste management program in lieu of the U. S. Environmental Protection Agency (EPA).

The State of Kansas first passed legislation regarding hazardous waste management in 1977. The Kansas laws have been amended and added to on several occasions since then. The Kansas Department of Health and Environment (KDHE) obtained authorization to administer the hazardous waste management program from EPA in October of 1985. Hazardous waste generators can thus deal primarily with KDHE. With a few exceptions, KDHE has adopted the federal regulations by reference. In areas where the Kansas regulations have more stringent requirements than the federal program, the generator must comply with the state requirements.

II. Purpose

The proper management of hazardous wastes can be a complex and challenging task. This is partially because of the constant modifications and additions to the regulations at both the federal and state levels. This publication was prepared to be used as a guide to help you determine whether your facility is subject to state and federal hazardous waste management statutes and regulations. By reviewing waste generation and disposal practices, and using this guide, a person should be able to do the following:

- Determine whether your facility generates hazardous wastes;
- Determine how those wastes are regulated under the Kansas hazardous waste management program;
- Learn what you must do to comply with the Kansas hazardous waste management statutes and regulations;
- Learn what alternative hazardous waste management options are available to a hazardous waste generator; and
- Learn what resources are available to assist you in complying with the statutes and regulations.

The hazardous waste statutes place the primary responsibility for ensuring that hazardous wastes are properly managed on the person who generates those wastes. The generator must identify all hazardous wastes and be certain that they are transported and disposed in accordance with the law. While the generator can contract with hazardous waste contractors or consultants to perform these activities on his or her behalf, the ultimate responsibility for complying with the laws remains with the generator of the waste. For this reason, it is important for all generators of hazardous or potentially hazardous wastes to become familiar with the statutes and regulations that apply to them.

The Kansas statutes and regulations generally mirror federal laws and regulations but differences do exist between the two programs. To comply with all the state regulations fully, you must use the Kansas hazardous waste regulations with the federal regulations referenced in the various state regulations. Complying only with the federal regulations found in Title 40 of the Code of Federal Regulations (40 CFR) will not allow you to operate in full compliance with the state regulations.

III. Who Generates Hazardous Waste?

Hazardous wastes are generated from many different chemical products and by many different types of businesses, industries, government agencies, and institutions. Large generators tend to be manufacturers of various products while small generators are most often in service-oriented businesses. Table 1 lists examples of industries and processes that typically generate hazardous wastes.

TABLE 1

POTENTIAL HAZARDOUS WASTE GENERATORS

Chemical Manufacturing	Sandblasting Operations
Metal Fabrication	Pesticide Applicators
Fiberglass Fabrication	Laboratories
Chemical Formulation	Vehicle Repair and Maintenance
Wood Products Manufacturing	Furniture Refinishing
Textile Manufacturing	Dry Cleaning
Metal Plating and Finishing	Printing and Related Industries

The above list is not all-inclusive. Each generator should evaluate all wastes generated to determine whether any of their wastes are hazardous wastes. The next section will help you in making that determination.

IV. What is a Hazardous Waste?

Hazardous waste is a special category or subset of all wastes that businesses and industries generate. For a material to be a hazardous waste, the material must first be classified as a solid waste. Generally speaking, a material is a waste when it can no longer be used for its intended purpose and will be disposed, reclaimed, or recycled. Hazardous wastes are wastes known to be harmful or potentially harmful to human health or the environment. However, there are many wastes that are quite harmful to human health or the environment, but are not regulated as hazardous wastes.

Waste Determination

The first step in determining whether a business or industry generates hazardous waste is to create an inventory of all wastes that are generated at the facility, including materials that are recycled. For each waste, list the process that generates the waste and the quantity generated each month, if possible. Do not forget wastes generated in offices, small labs, small maintenance shops, etc. or wastes disposed into the sanitary sewer system.

The next step is to determine if any of the wastes are **exempt** waste. Many wastes are exempt from the hazardous waste regulations and laws. Table 2 lists some of the most common wastes that are exempt from the hazardous waste regulations. Please refer to 40 CFR 261.4 for the complete listings of all exempt wastes.

It is important to remember that the exempt wastes may still pose environmental problems if they are not properly managed. Many of these wastes are therefore subject to state and federal water pollution, solid waste, or radiation control regulations.

If the waste is not exempt, then it is most likely a regulated hazardous waste. Hazardous wastes are grouped into two basic categories that are further subdivided within each category. The two main categories are: **listed** hazardous wastes and **characteristic** hazardous wastes.

The next step is to determine if any of the wastes are **listed** hazardous wastes. Listed hazardous wastes are wastes determined to always be hazardous wastes when generated. There are four lists of hazardous wastes: F-list, K-list, P-list, and U-list. If the waste is described or contained on one of these lists, then it is by definition a hazardous waste. Listed wastes will be discussed in more detail below.

If the waste is not listed, then the next step is to determine if the waste is a **characteristic** hazardous waste that exhibits one or more of the four hazardous characteristics. The four categories of characteristic waste are: **ignitability**, **corrosivity**, **reactivity**, and **toxicity characteristic**.

If the waste does meet any of the criteria of an exemption, and is not a listed or characteristic hazardous waste, then it is not regulated under the hazardous waste laws and regulations. However, all nonhazardous wastes are regulated under the Kansas solid waste regulations and must be managed and disposed of properly. Some common nonhazardous wastes include used oils, sludges, asbestos waste, medical waste, and construction/demolition waste.

TABLE 2

LIST OF EXEMPTED WASTES

- Domestic sewage and any mixture of domestic sewage and other wastes passing through a sewer system to a publicly owned treatment works (POTW).
- Point source industrial wastewater discharges subject to KDHE permit regulations.
- Irrigation return flows.
- Source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954.
- Materials subject to in-situ mining techniques that are not removed from the ground in the extraction process.
- Pulping liquors that are reclaimed in a recovery furnace and reused in the pulping process, unless accumulated speculatively.
- Spent sulfuric acid used to produce virgin sulfuric acid, unless accumulated speculatively.
- Solid wastes generated by growing and harvesting of agricultural crops or raising animals that are returned to the soil as fertilizer.
- Mining overburden returned to the mine site.
- Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from coal or fossil fuel combustion.
- Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas, or geothermal energy.
- Certain chrome-bearing wastes either containing exclusively trivalent chromium, or from the leather tanning industry.
- Solid wastes from the extraction, beneficiation and processing of ores and minerals.
- Cement kiln dust waste, except as described in 40 CFR 266.112.
- Discarded arsenic wood or wood products which fail the TCLP for hazardous waste codes D004 through D017 and are not hazardous for any other reason.

Listed Hazardous Wastes (40 CFR 261, Subpart D)

There are four lists of specific chemicals and industrial processes that define hazardous wastes. These are the F-list, K-list, P-list, and U-list. These wastes have been listed because they either always exhibit one of the four characteristics described below or they contain one or more toxic constituents known to be harmful to human health or the environment. All four of these lists are contained in Appendix A of this document. For more information see Kansas Administrative Regulations (K.A.R.) 28-31-3 and 40 CFR Part 261, Subparts B and D.

F-List

The F-list contains hazardous wastes from non-specific sources, that is, the waste may have been generated by various commercial or industrial processes. The list consists of solvents commonly used in degreasing, metal treatment baths and sludges, wastewaters from metal plating operations, dioxin containing chemicals or their precursors, and certain refinery wastes. Examples of F-listed solvents and their EPA hazardous waste numbers are: acetone (F003), xylene (F003), methyl ethyl ketone (F005), toluene (F005), benzene (F005), 1,1,1-trichloroethane (F001), and trichloroethylene (F001). Solvent mixtures or blends that contain greater than ten percent of one or more of the solvents listed in F001, F002, F004 and F005 are also considered F-listed wastes. Still bottoms from the distillation of any F-listed solvent are also listed hazardous wastes. The full list of F-listed wastes is contained in Appendix A.

K-List

The K-list contains hazardous wastes generated by specific industrial processes. Examples of industries that generate K-listed wastes include: wood preservation, pigment production, chemical production, petroleum refining, iron and steel production, explosives manufacturing, and pesticides production. The K-list is also contained in Appendix A.

P- and U- Lists

The P- and U-lists contain discarded commercial chemical products, off-specification chemicals, container residues, and residues from the spillage of these chemicals. These two lists include commercially pure grades of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. Examples of businesses that typically generate P- or U-listed wastes include pesticide applicators, laboratories and chemical formulators. An example of a P- or U-listed hazardous waste would be a pesticide on one of the two lists that was not used during its shelf life and must now be disposed. At the time such a material was intended for disposal, it would be considered a hazardous waste. The primary distinction between the two lists is the quantity at which the chemical is regulated. The P-list consists of acutely hazardous wastes that are regulated when the quantity generated per month, or accumulated at any time, exceeds one kilogram (2.2 pounds). U-listed hazardous wastes are toxic wastes and are regulated when the quantity of waste generated per month exceeds 25 kilograms (55 pounds). Both lists are contained in Appendix A.

Characteristic Hazardous Wastes (40 CFR 261, Subpart C)

Characteristic hazardous wastes exhibit one or more physical and/or chemical properties that pose a hazard when the wastes meet or exceed specific conditions or when the wastes meet or exceed specific concentrations of chemicals in the waste. Each category contains subdivisions based on specific physical and chemical properties of the waste. A waste that exhibits one or more hazardous characteristics is considered hazardous for each characteristic. The four characteristics are: ignitability, corrosivity, reactivity, and toxicity.

Ignitability (EPA Hazardous Waste Number D001)

A waste is an ignitable hazardous waste if it is a liquid and has a flash point of less than 140 degrees Fahrenheit as determined by using an approved flash point test. An ignitable waste is also a waste that readily catches fire and burns so vigorously as to create a hazard. Ignitable wastes also include ignitable compressed gases and oxidizers as defined by the U.S. Department of Transportation (DOT) regulations. A simple method of determining the flash point of a waste is to review the material safety data sheet (MSDS), which can be obtained from the manufacturer or distributor of the material. Mineral spirits, naphtha, lacquer thinner, epoxy resins, adhesives, and oil based paints are all examples of ignitable hazardous wastes.

Corrosivity (EPA Hazardous Waste Number D002)

An aqueous waste which has a pH of less than or equal to 2 or greater than or equal to 12.5 is considered to be a corrosive hazardous waste. Corrosive hazardous wastes also include hazardous wastes that can corrode steel at a rate of 1/4 inch or more per year. These types of corrosive wastes are usually concentrated solutions of chemical salts used to etch metals. Sodium hydroxide, a caustic solution with a high pH, is often used by Kansas industries to clean or degrease metal parts. Hydrochloric acid, a solution with a low pH, is used by many industries to clean metal parts prior to painting. When these caustic or acid solutions become contaminated (wastes) and must be disposed, the waste would be a corrosive hazardous waste.

Reactivity (EPA Hazardous Waste Number D003)

A material is a reactive hazardous waste if it is normally unstable, reacts violently with water, generates toxic gases when exposed to water or corrosive materials, or if it is capable of detonation or explosion when exposed to heat or a flame. Few Kansas industries generate characteristic reactive wastes. Examples of reactive wastes include waste gunpowder, sodium metal, or wastes containing cyanides or sulfides.

Toxicity Characteristic (EPA Hazardous Waste Numbers: D004 through D043)

The fourth characteristic that could make a waste a hazardous waste is toxicity. To determine if a waste exhibits a toxicity characteristic, a representative sample of the material must be subjected to a test conducted by a KDHE certified laboratory. The test procedure is the Toxicity Characteristic Leaching Procedure (TCLP). The complete list of TCLP compounds with the associated regulatory levels and hazardous waste numbers is contained in Table 3.

What is the TCLP test?

The Toxicity Characteristic Leaching Procedure (TCLP) test is a specific analytical procedure used to determine if a waste material has the potential to release certain toxic chemicals into water if disposed on or in the ground. The results of the test yield a numerical concentration usually reported in milligrams per liter (mg/l), which is equivalent to parts per million (ppm). The analytical results are then directly compared with the TCLP regulatory limits in the hazardous waste regulations. Any waste that equals or exceeds any regulatory limit for any TCLP constituent is considered a Toxicity Characteristic hazardous waste. A waste may exhibit one or more Toxicity Characteristics and therefore be considered hazardous for each constituent.

A generator only needs to request that the laboratory conduct the analysis for the hazardous constituents that are reasonably expected to be present in the waste. For instance, a sludge from a parts washing tank in an auto repair shop may be tested for the TCLP heavy metals and volatile organic compounds, but rarely would this type of waste need to be tested for TCLP pesticides and semi-volatile organic compounds.

TABLE 3

TOXICITY CHARACTERISTIC CONSTITUENTS
REGULATORY LEVELS AND HAZARDOUS WASTE CODES

Volatile Organic Compounds		
Benzene	0.5 mg/l	D018
Carbon tetrachloride	0.5 mg/l	D019
Chlorobenzene	100.0 mg/l	D021
Chloroform	6.0 mg/l	D022
1,2-Dichloroethane	0.5 mg/l	D028
1,1-Dichloroethylene	0.7 mg/l	D029
2,4-Dinitrotoluene	0.13 mg/l	D030
Methyl ethyl ketone	200.0 mg/l	D035
Tetrachloroethylene	0.7 mg/l	D039
Trichloroethylene	0.5 mg/l	D040
Vinyl chloride	0.2 mg/l	D043
Base-Neutral-Acids		
o-Cresol	200.0 mg/l	D023
m-Cresol	200.0 mg/l	D024
p-Cresol	200.0 mg/l	D025
Cresol	200.0 mg/l	D026
1,4-Dichlorobenzene	7.5 mg/l	D027
Hexachlorobenzene	0.13 mg/l	D032
Hexachlorobutadiene	0.5 mg/l	D033
Hexachloroethane	3.0 mg/l	D034
Nitrobenzene	2.0 mg/l	D036
Pentachlorophenol	100.0 mg/l	D037
Pyridine	5.0 mg/l	D038
2,4,5-Trichlorophenol	400.0 mg/l	D041
2,4,6-Trichlorophenol	2.0 mg/l	D042

Pesticides		
Chlordane	0.03 mg/l	D020
Endrin	0.02 mg/l	D012
Heptachlor	0.008 mg/l	D031
Lindane	0.4 mg/l	D013
Methoxychlor	0.0 mg/l	D014
Toxaphene	0.5 mg/l	D015
Herbicides		
2,4-D	10.0 mg/l	D016
2,4,5-TP (Silvex)	1.0 mg/l	D017
Metals		
Arsenic	5.0 mg/l	D004
Barium	100.0 mg/l	D005
Cadmium	1.0 mg/l	D006
Chromium	5.0 mg/l	D007
Lead	5.0 mg/l	D008
Mercury	0.2 mg/l	D009
Selenium	1.0 mg/l	D010
Silver	5.0 mg/l	D011

Other Wastes

Lead-Acid Batteries (40 CFR 266, Subpart G)

Used lead-acid batteries are regulated as hazardous wastes only if they are NOT recycled. Batteries that are recycled do not need to be counted in determining the quantity of hazardous waste generated per month, nor do they require a hazardous waste manifest when shipped off your premises. This exemption does not apply if you recycle batteries on your premises. Lead-acid batteries may also be managed under the "Universal Waste" rule in 40 CFR 273. A list of battery recyclers is contained in Appendix D.

Asbestos (40 CFR 763)

Asbestos is not a hazardous waste and is not subject to the hazardous waste regulations. Asbestos-containing material (ACM) regulated under K.A.R. 28-50-14 may be disposed of as a special waste at a permitted municipal solid waste landfill (MSWLF) if the generator complies with the requirements of K.A.R. 28-29-109, the special waste regulation. For more information about asbestos disposal you can contact the Special Waste Coordinator at (785) 296-1600.

Household Hazardous Waste

Household hazardous wastes (HHW) represent a wide variety of wastes that are produced as a result of normal household activities. Among the most common of these wastes are:

- Pesticides
- Paints, stains, and varnishes
- Used oil
- Antifreeze and other automobile fluids
- Household cleaners, polishes, and waxes
- Wood preservatives
- Photo and hobby chemicals
- Swimming pool chemicals
- Batteries

Although HHW is exempt from regulation as hazardous waste, recycling or disposing of these wastes at a HHW facility is an environmentally beneficial and safe alternative to disposing of these wastes with your ordinary household trash. To learn if there is an HHW collection facility or program in your area you can contact your KDHE district office or telephone the Topeka office at (785) 296-1600. Additionally, there is a list of permitted HHW facilities is available on the KDHE website: www.kdheks.gov/waste.

Usually only HHW from residential trash is accepted at an HHW facility. However, some of the HHW collection facilities have a KDHE-approved operating plan that allows them to accept HHW from small quantity generators (SQGs). SQGs are a class of hazardous waste generators who generate less than 55 pounds of regulated hazardous waste in any single calendar month.

Used Oil (40 CFR 279)

Used oil that is recycled for energy or material recovery is not subject to the hazardous waste regulations. Used oil that is recycled by burning in a space heater or by a used oil collector does not need to be counted in determining the quantity of waste generated per month, nor does it require a hazardous

waste manifest when shipped off your premises. A partial list of used oil collectors/transporters is contained in Appendix C. Used oil can be burned in oil-fired space heaters provided that:

- The heater burns only used oil that you generate or used oil received from household do-it-yourselfers, not businesses, who generate used oil as household waste;
- The heater is designed to have a maximum capacity of not more than 0.5 million (500,000) Btus per hour; and
- The combustion gases from the heater are vented to the outside air.

If you burn used oil in an industrial boiler or furnace or send your oil to someone who is burning it you are required to notify KDHE on the Notification of Regulated Waste Activity form (8700-12 form). This form may be downloaded from the KHDE Bureau of Waste Management (BWM) website at www.kdheks.gov/waste/index.html. You do not need to notify KDHE if you only burn your used oil in a space heater. Used oil generators do not need to notify.

Used oil that is mixed with hazardous waste must be managed as hazardous waste unless it is from a small quantity generator (K.A.R. 28-31-4(p)(4)). Used oil cannot be discharged onto the ground, waterways or used as a sealant, coating, or dust control agent for roads or parking lots.

Polychlorinated Biphenyls (PCBs) (40 CFR 761)

Polychlorinated biphenyls (PCBs) are not a hazardous waste and are not subject to the hazardous waste regulations. The use, storage and disposal of PCBs is regulated under the federal Toxic Substances Control Act (TSCA). Additional information on the storage, transportation, and disposal of PCBs may be obtained by contacting the EPA Region VII PCB Coordinator in Kansas City at (913) 551-7395.

Mixed Waste

Mixed waste is waste that contains a radioactive component and a hazardous component. The radioactive component, which may be high-level, low-level, transuranic, or other, is subject to the Atomic Energy Act (AEA) and is regulated by the KDHE Bureau of Air and Radiation (BAR). The hazardous component may be either a listed hazardous waste or is a characteristic hazardous waste. The hazardous waste component is regulated by the KDHE Bureau of Waste Management (BWM).

Medical Facility Waste

Medical facilities may generate three types of special wastes: infectious, radiological, and chemical. Infectious wastes are not regulated as hazardous wastes, but are regulated as solid wastes in Kansas. Guidelines in the form of Technical Guidance Documents (TGDs) for managing such wastes can be obtained from the Solid Waste Permits Section of the Bureau of Waste Management (BWM) at (785) 296-1600 or on the BWM website: www.kdheks.gov/waste. Radiological wastes that are not "mixed wastes" are regulated by the Bureau of Air and Radiation. Medical facilities that generate listed or characteristic hazardous wastes must comply with the same requirements as other generators of hazardous wastes.

Empty Containers (40 CFR 261.7)

Containers or container liners that have held hazardous materials are not regulated as hazardous wastes if the containers or liners are empty. A container is considered empty according to the requirements of 40 CFR 261.7 if:

- All wastes that can be removed have been removed by pouring, pumping, and aspirating, and
- No more than one inch of residue remains in the container, or
- No more than 3.0 percent by weight of the total capacity of the container remains in the container or liner if the container is equal to or less than 110 gallons in size, or
- No more than 0.3 percent by weight of the total capacity of the container remains in the container or liner if the container is greater than 110 gallons in size.

Any containers that contained P-listed materials or wastes must be triple-rinsed using an appropriate solvent before they are considered empty. Unless exempt, rinsates (wash-out wastes) from P-listed containers must be managed as hazardous wastes.

Universal Waste (40 CFR 273)

Universal wastes in Kansas include hazardous batteries, mercury thermostats, lamps, and certain recalled, canceled, suspended or unused pesticides. Universal wastes are regulated under K.A.R. 28-31-15, which requires universal waste handlers to comply with the requirements of 40 CFR 273. The two most common universal wastes are hazardous batteries such as nickel-cadmium (Ni-Cd) and lead-acid batteries and mercury-containing lamps such as fluorescent, mercury vapor, or high intensity discharge (HID) lamps. The provisions of 40 CFR 273 reduce many of the stringent hazardous waste regulations and allows universal wastes to be more easily collected, transported, and recycled or disposed. Any large quantity universal waste handler who has not previously notified KDHE and obtained an EPA identification number must submit a Notification of Regulated Waste Activity form to KDHE prior to exceeding the accumulation limit. For more information about spent mercury-containing lamps and universal wastes, please refer to the KDHE BWM Technical Guidance Documents (TGDs) titled *Spent Fluorescent Lamps Containing Mercury* (HW 95-01) and *Notification Requirements for Large Quantity Handlers of Universal Waste* (HW 01-01), respectively. The TGDs are available on the BWM website: www.kdheks.gov/waste.

V. What Quantities of Hazardous Waste are Regulated?

After a generator determines which wastes are hazardous wastes, the next step is to determine the generation rate and maximum quantities that are accumulated. The generation rate is determined by adding together the total quantity of hazardous waste from all sources each calendar month. In determining the generation rate, the actual amount of waste generated each calendar month is used, not an average over a number of months.

In determining the quantity of hazardous waste generated each calendar month, a generator does **not** need to include the following:

- Hazardous waste when it is removed from on-site storage;

- Hazardous waste produced by on-site treatment including reclamation of hazardous waste, so long as the hazardous waste that is treated or reclaimed is counted prior to treatment or reclamation;

- Lead-acid batteries that are recycled;

- Universal Wastes managed according to 40 CFR 273.

The quantity determination regulations are located in K.A.R. 28-31-4(o).

Generator Classifications

Kansas regulations define three categories of hazardous waste generators that are described in detail below. A generator must determine which category his or her facility is classified as in order to determine which regulations must be followed. It should be noted that a facility may change status from one category to another depending upon generation rates and accumulated quantities.

Small Quantity Generator

A small quantity generator is a person, businesses, industry, government agency, and institution who meets all of the following conditions:

- Generates in any single calendar month less than 55 pounds (25 kilograms) of hazardous waste;

- Accumulates at any time less than 2,200 pounds (1,000 kilograms) of hazardous waste;

- Generates in any single calendar month less than 2.2 pounds (1 kilogram) of acutely hazardous waste;

- Accumulates at any time less than 2.2 pounds (1 kilogram) of acutely hazardous waste;

- Generates in any single calendar month less than 55 pounds (25 kilograms) of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill of acutely hazardous waste; and

- Accumulates at any time less than 55 pounds (25 kilograms) of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill of acutely hazardous waste.

Kansas Generator

A Kansas generator is any person, businesses, industry, government agency, and institution who meets all of the following conditions:

- Generates in any single calendar month 55 pounds (25 kilograms) or more and less than 2,200 pounds (1,000 kilograms) of hazardous waste;

- Accumulates at any time less than 2,200 pounds (1,000 kilograms) of hazardous waste;

- Generates in any single calendar month less than 2.2 pounds (1 kilogram) of acutely hazardous waste;

- Accumulates at any time less than 2.2 pounds (1 kilogram) of acutely hazardous waste;
- Generates in any single calendar month less than 55 pounds (25 kilograms) of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill of acutely hazardous waste; and
- Accumulates at any time less than 55 pounds (25 kilograms) of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill of acutely hazardous waste.

EPA Generator

An EPA generator is a person, businesses, industry, government agency, and institution who meets any of the following conditions:

- Generates in any single calendar month 1,000 kilograms (2,200 pounds) or more of hazardous waste;
- Accumulates at any time 2,200 pounds (1,000 kilograms) or more of hazardous waste;
- Generates in any single calendar month 2.2 pounds (1 kilogram) or more of acutely hazardous waste;
- Accumulates at any time 2.2 pounds (1 kilogram) or more of acutely hazardous waste;
- Generates in any single calendar month 55 pounds (25 kilograms) or more of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill of any acutely hazardous waste; or
- Accumulates at any time 55 pounds (25 kilograms) or more of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill of acutely hazardous waste.

VI. What Regulations Must Hazardous Waste Generators Meet?

Small Quantity Generator

Small quantity generators are required to manage hazardous wastes in an environmentally sound fashion. They are not subject to any notification or reporting requirements. Small quantity generators may use any of the following alternatives to handle hazardous wastes when disposed in quantities less than 55 pounds: recycling, reuse, reclamation, disposal at a permitted municipal solid waste landfill (MSWLF), neutralization and discharge to the sanitary sewer (only with permission of the city), or disposal at a permitted hazardous waste disposal facility. Hazardous wastes such as solvents, sludges, and pesticides are not suitable for discharge to the sanitary sewer. Small quantities of hazardous waste may NOT be disposed of by dumping on the surface of the ground or into surface waters, disposal into septic systems, burying in the ground at an unpermitted site, or by using wastes such as solvents for killing weeds. The small quantity generator regulations are located in K.A.R. 28-31-4(m).

Small quantity generators who accumulate 55 pounds or more of hazardous waste may recycle, treat or dispose of the wastes either on-site or send the wastes to an off-site hazardous waste management facility. **Quantities 55 pounds or greater of hazardous waste may not be sent to a municipal solid waste landfill in Kansas. In addition, they are subject to the following requirements:**

A. Package, label, mark, and placard all shipments of hazardous waste in accordance with the pre-transportation requirements contained in K.A.R. 28-31-4(e).

B. Follow the dating, marking, and container management requirements for containers and tanks described under K.A.R. 28-31-4(h)(2), (3), and (4). All containers must be closed, except when adding or removing wastes. All containers of hazardous waste must be marked with the words "Hazardous Waste". Appendix E provides a list of label suppliers.

C. Conduct and document weekly inspections of hazardous waste storage areas.

Kansas Generator

Kansas Generators must comply with the following regulatory requirements:

A. Determine which wastes generated by the facility are hazardous by reviewing the four hazardous characteristics, the four lists of hazardous wastes, or by knowledge of the process which generates the waste (K.A.R. 28-31-4(b)). All hazardous wastes must be managed by treatment on-site, or sent off-site to a commercial treatment, storage, or disposal (TSD) facility or to a facility designated for recycling.

B. Obtain an EPA identification number by submitting a Notification of Regulated Waste Activity form to KDHE (K.A.R. 28-31-4(c)). The notification must be updated whenever the information submitted on the original form changes. Please telephone (785) 296-1600 for the most recent edition of the notification form. Additionally, this form (8700-12 Form) may be downloaded from the KHDE BWM website at www.kdheks.gov/waste/index.html.

C. Prepare a manifest or tolling agreement for all shipments of hazardous waste that are transported off-site for treatment, recycling, storage or disposal in accordance with K.A.R. 28-31-4(d). Your commercial hazardous waste vendor will be able to provide the manifest or tolling agreement.

D. Prepare a land disposal restriction (LDR) notification and/or certification for the first shipment of each different hazardous waste. Whether a waste or contaminated soil meets or does not meet the treatment standard, the generator must send a one-time written LDR notification to each treatment, storage, or disposal facility receiving the waste (K.A.R 28-31-14*: see 40 CFR 268.7(a)(2) and (3)*).

E. Package, label, mark, and placard all shipments of hazardous waste in accordance with the pre-transportation requirements contained in K.A.R. 28-31-4(e). Appendix E provides a list of label suppliers.

F. Prepare and maintain the following records (K.A.R. 28-31-4(f)):
   1) A copy of each manifest signed by the designated facility to which waste was sent and a copy of any tolling agreements for wastes shipped to a recycling facility. The signed manifests must be maintained for three years from the date waste was shipped off-site.
   2) Manifest exception reports for three years.

3) Copies of LDR records for three years from the date waste was last shipped off-site.
4) Hazardous waste analyses for three years from the date waste was last shipped off-site.
5) Daily and weekly inspection records for three years.

G. Meet the following storage requirements for containers and tanks (K.A.R. 28-31-4(h)):

For containers:

1) Mark or label each container with the words "Hazardous Waste" and the accumulation start date.
2) Maintain the containers in good condition.
3) Use a container compatible with the hazardous waste to be stored and segregate containers of incompatible wastes.
4) Keep containers closed except when adding or removing waste.
5) Inspect each container storage area weekly when waste is present and maintain a written record of each inspection. (BWM suggests that a facility also document when no waste is present in the storage area.)
6) Satellite accumulation:
    a. A generator may accumulate one container of up to 55 gallons of each hazardous waste or one container of up to one quart of each acutely hazardous waste at the point of waste generation, provided the containers are: compatible with the waste; in good condition; closed except to add or remove wastes; and marked with the words "Hazardous Waste".
    b. When a satellite accumulation container becomes full or accumulates 55gallons of waste, the waste may be emptied into a storage container or tank, or the satellite container must be dated with the date it became full or accumulated 55 gallons. This date will be the accumulation start date for that container. The generator shall move the full container to a hazardous waste storage area within three days.

For tanks:

1) Mark or label each tank with the words "Hazardous Waste" and the accumulation start date.
2) Maintain 2 feet of freeboard in uncovered tanks, unless the tank has secondary containment.
3) For each day there is waste in the tank, inspect all discharge control equipment, monitoring equipment, and the level of waste in the tank.
4) Inspect the construction and the condition of tanks and dikes each week.
5) Maintain a written record of each daily and weekly inspection.
6) Do not place ignitable, reactive or incompatible wastes in tanks unless appropriate precautions are taken and maintain protective distances.
7) Upon closure, remove all hazardous waste from the tank system and properly dispose the waste.

H. Meet the following preparedness and prevention requirements contained in K.A.R. 28-31-4(h)(5); *see 40 CFR 265 Subpart C*:

1) Properly maintain the facility to minimize releases of hazardous waste.
2) Provide an appropriate communication, alarm system, or a telephone or two-way radio.
3) Provide fire extinguishing and spill control equipment.
4) Maintain and test all required equipment to ensure its proper operation.
5) Provide personnel working directly with hazardous waste with immediate access to communications and alarm equipment.

6) Maintain aisle space sufficient to allow passage of personnel and fire, spill control and decontamination equipment.
7) As appropriate for the type of waste handled and the potential need for their emergency services, make arrangements with the local hospital, police department, fire department, and any emergency response team to familiarize them with the facility layout and the hazards involved with the wastes generated. Such arrangements should be documented.

I. Meet the following emergency preparedness and training requirements contained in K.A.R. 28-31-4(h)(6) through (9):

1) Designate an emergency coordinator who is on the premises or on call at all times to coordinate emergency response measures.
2) Post the name and phone number of the emergency coordinator, the phone number of the fire department, and the location of fire extinguishers, spill control equipment, and fire alarms next to one telephone that is accessible during an emergency.
3) Ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures.
4) Carry out the appropriate response to any emergency that arises.

J. Before April 1 of each year, submit to KDHE the annual monitoring fee of $100.

K. Report all international shipments of hazardous waste to KDHE and EPA (K.A.R. 28-31-4(q) and (r)).

EPA Generator

EPA generators must comply with the following requirements:

A. Determine which wastes generated by the facility are hazardous by reviewing the four hazardous characteristics, the four lists of hazardous wastes or by using knowledge of the process that generates the waste (K.A.R. 28-31-4(b)). All hazardous wastes must be managed by treatment on-site, or sent off-site to a commercial treatment, storage, or disposal (TSD) facility or to a facility designated for recycling.

B. Obtain an EPA identification number by submitting a Notification of Regulated Waste Activity form to KDHE (K.A.R. 28-31-4(c)). The notification must be updated whenever the information submitted on the original form changes. Please telephone (785) 296-1600 for the most recent edition of the notification form. Additionally, this form (8700-12 Form) may be downloaded from the KHDE BWM website at www.kdheks.gov/waste/index.html.

C. Prepare a manifest for all shipments of hazardous waste that are transported off-site for treatment, recycling, storage or disposal in accordance with K.A.R. 28-31-4(d). Your commercial hazardous waste vendor will be able to provide the manifest.

D. Prepare a land disposal restriction (LDR) notification and/or certification for the first shipment of each different hazardous waste. The generator must send a one-time written LDR notification to each treatment, storage, or disposal facility receiving the waste (K.A.R 28-31-14; *see 40 CFR 268.7(a)(2) and (3)*).

E. Package, label, mark, and placard all shipments of hazardous waste in accordance with the pre-transportation requirements contained in K.A.R. 28-31-4(e). Appendix E provides a list of label suppliers.

F. An EPA generator may accumulate hazardous waste on-site for 90 days or less without a permit or without obtaining interim status if the generator complies with K.A.R. 28-31-4(g).

G. Maintain the following records:

1) A signed copy of each manifest initiated for wastes transported off-site for treatment, recycling, storage, or disposal. The signed manifests must be maintained for three years from the date waste was shipped off-site.
2) Manifest exception reports for three years.
3) Hazardous waste analyses used for waste determinations for three years from the date waste was last shipped off-site.
4) Biennial and annual reports for three years.
5) Copies of LDR records for three years from the date waste was last shipped off-site.
6) Tank certification records until closure.
7) Daily and weekly inspection records for three years.
8) Personnel training records. Maintain current employee records until all hazardous waste units are closed. Former employee training records must be maintained for at least three years from the date the employee last worked at the facility.

H. Meet the following storage requirements for containers and tanks:

For containers:

1) Mark or label each container with the words "Hazardous Waste" and the accumulation start date.
2) Maintain each container in a good condition.
3) Use a container compatible with the hazardous waste to be stored and segregate containers of incompatible wastes.
4) Keep each container closed, unless adding or removing waste.
5) Store ignitable and reactive waste at least 50 feet from the property line.
6) Inspect each container storage area each week when waste is present and maintain a written record of each inspection. (BWM suggests that a facility also document when no waste is present in the storage area.).
7) Satellite accumulation areas:
    a. A generator may accumulate one container of up to 55 gallons of each hazardous waste or one container of up to one quart of each acutely hazardous waste at the point of waste generation, provided the containers are: compatible with the waste; in good condition; kept closed, except to add or remove waste; and marked with the words "Hazardous Waste."
    b. When a satellite accumulation container becomes full or accumulates 55 gallons of waste, the waste may be emptied into a storage container or tank or the satellite container must be dated with the date it became full. This date will be the accumulation start date for that container. The generator shall move the full container to a hazardous waste storage area within three days.
8) Comply with container management practices required in 40 CFR 265, Subparts AA, BB, and CC.

For tanks:

1) Mark or label each tank with the words "Hazardous Waste" and the accumulation start date.
2) Meet the design and installation standards of 40 CFR 265.192.
3) Meet the containment and detection of release standards of 40 CFR 265.193.

4) Meet the operating standards of 40 CFR 265.194.
5) For each day that there is waste in the tank, inspect overfill/spill control equipment, monitoring equipment, and the condition of the above ground portion of tanks and secondary containment areas.
6) Maintain a written record of each daily inspection.
7) Do not place ignitable, reactive, or incompatible wastes in tanks unless appropriate precautions are taken, and maintain protective distances.
8) Respond to spills and leaks according to 40 CFR 265.196.
9) Close tank system according to the applicable standards in 40 CFR 265.197.
10) Comply with all tank management practices required in 40 CFR Part 265, Subparts AA, BB, and CC.

I. Meet the following preparedness and prevention requirements contained in K.A.R. 28-31-4(g)(4); *see 40 CFR 265 Subpart C*:

1) Properly maintain the facility to minimize releases of hazardous waste.
2) Provide an appropriate communication or alarm system, or a telephone or two-way radio.
3) Provide fire extinguishing and spill control equipment.
4) Maintain and test all required equipment to ensure its proper operation.
5) Provide personnel working directly with hazardous waste with immediate access to communications and alarm equipment.
6) Maintain aisle space sufficient to allow passage of personnel and fire, spill control and decontamination equipment.
7) As appropriate for the type of waste handled and the potential need for their emergency services, make arrangements with the local hospital, police department, fire department and emergency response team to familiarize them with the plant layout and the hazards involved with the wastes generated. Such arrangements should be documented and must be described in the contingency plan.

J. EPA generators must prepare and implement a personnel training program to ensure that facility personnel can respond effectively to a hazardous waste emergency as required by K.A.R. 28-31-4 (g)(4); *see 40 CFR 265.16*. The training program must:

1) Be directed by a person trained in hazardous waste management procedures.
2) Teach facility personnel about the location of emergency response and monitoring equipment, how to maintain and operate such equipment, and communications procedures and response procedures for fires, explosions, and spills. Training must include implementation of the contingency plan. The training for each employee must be completed within six months after the date an employee enters a position.
3) Provide an annual (every 12 months) review of the initial training.
4) Provide a job title, a written job description, and a written description of the training for each person whose job includes hazardous waste management duties. This description must include the type and amount of both introductory and continuing training that will be given to each person.
5) Document all initial and annual review training.

K. Prepare a contingency plan and implement emergency procedures to ensure that releases of hazardous waste are properly handled (*see 40 CFR 265 Subpart D*). The contingency plan must include the following information:

1) A description of the actions facility personnel must take to respond to a release.
2) A description of the arrangements made with local authorities for emergency services.

3) Designation of primary and secondary emergency coordinators and listing of their addresses and phone numbers. Assure that an emergency coordinator is on-site or always on call.
4) A list of all emergency equipment on-site, its capabilities and its location.
5) An evacuation plan where the potential need for an evacuation exists.

The contingency plan must be periodically reviewed and/or updated when changes occur. Additionally, copies of the contingency plan must be maintained at the facility and submitted to the local police department, fire department, hospital, and emergency response team.

L. Complete and submit to KDHE the annual hazardous waste monitoring fee report with the payment of the appropriate fee.

M. Prepare and submit a biennial report to KDHE by March 1 of each even-numbered year. The biennial report must contain all of the information required by K.A.R. 28-31-4(f)(2).

N. Report all international shipments of hazardous waste to KDHE and EPA as required by K.A.R. 28-31-4(q) and (r).

Land Disposal Restrictions (40 CFR 268)

Background

The 1984 Hazardous and Solid Waste Amendments (HSWA) required EPA to evaluate all characteristic and listed hazardous wastes to determine which wastes should be restricted from land disposal. For all restricted wastes, EPA has established treatment standards to ensure that hazardous constituents will not migrate from the disposal site. K.A.R. 28-31-1 adopts by reference the federal land disposal restriction (LDR) regulations contained in 40 CFR Part 268.

Generator Requirements

The generator requirements under the LDR regulations can be divided into two general areas. The first is the determination of the applicability of the requirements to a given waste. The second is the provision of notice and/or certification to storage, treatment, or disposal facilities.

Determination

A generator must determine whether a waste is subject to the land disposal restriction rules and whether or not it meets or exceeds the specific treatment standard for each applicable waste number. The generator must assign all applicable EPA hazardous waste numbers to each waste or waste mixture. To determine whether the waste meets or exceeds the treatment standard, you may use knowledge of the waste, conduct a total waste analysis, or conduct a Toxicity Characteristic Leaching Procedure (TCLP) test, as appropriate.

Treatment Standards

EPA has established three types of treatment standards. These include concentrations of contaminants in an extract of the waste (TCLP), concentrations of contaminants in the waste itself (total analysis), and specific treatment technologies that must be used. For most wastes, EPA has established a specific treatment concentration that must not be exceeded. However, for some wastes EPA has established a specific treatment technology that must be used to treat the waste. The treatment standards for hazardous wastes are listed in 40 CFR 268, Subpart D.

Notification

If you are shipping waste off-site and your waste **does not meet** the treatment standards, you must sent a written notice with the initial shipment to a storage, treatment, or disposal facility stating that the waste is subject to the LDR regulations. This notification requirement also includes wastes sent to recyclers and incinerators, since residues from these facilities may ultimately require land disposal. These notifications are typically called "LDR notices." The generator must keep a copy of each notification for three years from the date of the last shipment of the waste to which it corresponds. Your hazardous waste management company will usually provide the notification forms. If you need additional information, please contact the KDHE at (785) 296-1600 for assistance.

The LDR notice must contain the following information:

- The manifest document number associated with the waste shipment.
- All applicable EPA hazardous waste numbers for each waste.
- The applicable wastewater/non-wastewater category and any subdivision of a waste code.
- Each constituent of concern for F001- through F005- and F039-listed wastes and each underlying hazardous waste constituent in characteristic wastes. However, if the waste will be treated and monitored for all constituents by the treatment, storage, or disposal facility, then there is no need to list them individually on the notification.
- Indicate that the waste is subject to the LDR regulations.
- The waste analysis data, if it is available.

Certification

If a waste **meets** the treatment standards it may be sent directly to a disposal facility for disposal in a land-based unit without any further treatment. The generator must provide the same one-time notification as above except you must state that the waste is not prohibited from land disposal. In addition to the notification, you must send a certification that states the waste delivered to the disposal facility meets the treatment standards. The certification **must** contain the required statement contained in the regulation and must be signed by an authorized representative of the generator. The generator must keep a copy of the notification and certification for three years from the date of the last shipment of the waste to which they correspond.

VII. What Hazardous Waste Management Options are Available to a Generator?

Many alternatives exist for properly managing hazardous wastes. These alternatives are listed below in order of desirability. With proper use of these techniques, the economic burden and liability of handling hazardous wastes can be significantly reduced.

Waste Minimization

Waste minimization is any change in a process that reduces or eliminates the amount of waste generated or reduces the toxicity of the waste that is generated. A waste minimization plan is an important component of any comprehensive waste management program. The Hazardous and Solid Waste Amendments (HSWA) to RCRA of 1984 recognized the importance of this approach when declaring it to be "the national policy of the United States that, whenever feasible, the generation of hazardous waste is to be reduced or eliminated as expeditiously as possible." Taking waste minimization from a goal to a reality has not been easy even though it offers a business many advantages. These advantages include economic incentives, regulatory compliance, worker safety, and protection of the environment.

Waste minimization changes that reduce the volume or toxicity of a hazardous waste can result in lower treatment and disposal costs, a decrease in the long-term liability associated with disposing of hazardous waste at off-site disposal facilities, and provide a safer work place by reducing the exposure of workers to hazardous materials. They can also change the generator status of a facility resulting in a lesser regulatory burden and lower the generator monitoring fees for a facility.

Any type of waste minimization activity also benefits the environment through preservation of natural resources that go into the manufacture of raw materials and reducing the need for hazardous waste management facilities.

Waste reduction can only be accomplished if there is a commitment to the goal throughout the organization. The first step in minimizing wastes is to identify all waste streams and the processes that generate them. The following changes represent a few of the actions that can then be taken to reduce or eliminate excess waste generation.

- Managing the hazardous materials inventory to ensure that hazardous materials do not become hazardous wastes when processes or product specifications change.

- Use only the amount of raw material needed to perform the task. Many facilities have substantially reduced the amount of paints and solvents needed by training workers in improved and more efficient painting and cleaning methods.

- Ensure that all products and wastes are clearly labeled and properly stored. Improper storage can result in accidental contamination of a product or require expensive testing to identify a product or waste.

- Substitute a non-hazardous product for a hazardous one. Changing primers or paints to products that do not contain heavy metals is one of the most common waste minimization changes.

- Use sludge dryers, filter presses or similar equipment to reduce the volume of liquid wastes generated in large quantities.

- Replace existing equipment with more efficient equipment to perform the same operation. In the coating industry, for example, replacement of conventional air-atomized spray equipment with electrostatic or powder coating equipment can result in a substantial waste reduction.

- Minimize losses due to evaporation by installation of vapor recovery systems, placing covers on tanks, and ensuring that lids are kept on containers of volatile hazardous materials.

Material or Energy Recovery

Material recovery occurs when a waste is treated to allow continued use as a raw material. An example is the distillation of contaminated solvents. This may be done with a small still at the generator's facility or by a commercial recycling firm. The method results in savings on the purchase of raw materials and reduces the volume of waste requiring disposal.

Energy recovery occurs when a waste with fuel value is burned as a fuel in an industrial boiler or furnace. This method is appropriate for solvents contaminated to the point where they are no longer suitable for distillation. This alternative is less suitable for chlorinated solvents or other hazardous wastes with fuel values below 5,000 Btus per pound. The most common form of energy recovery in Kansas is the use of spent solvents as supplemental fuels in cement kilns.

Waste Treatment

Many hazardous wastes can be treated to render them nonhazardous. This is usually done at commercial hazardous waste treatment facilities, but occasionally simple treatment may be done at the generator's site. An example of a type of treatment performed by some generators is neutralization of an acid or caustic waste to allow discharge of the treated waste to a wastewater treatment plant. In general, treatment can only be performed at a permitted treatment facility. Contact KDHE before treating any hazardous waste to determine whether a permit or other approval is needed for your particular case.

Ultimate Disposal

Hazardous wastes that are not suitable for any of the above recycling or treatment techniques must be ultimately disposed of by chemical destruction (i.e., incineration), deep well injection, or land burial. Many of the treatment techniques discussed above also result in residues that must be disposed. Disposal via deep well injection and land burial is restricted to certain types of hazardous wastes and should be reserved for situations where alternative management methods are not possible.

VIII. Choosing a Hazardous Waste Management Facility

If your facility generates hazardous waste that must be shipped off-site for treatment or disposal, you must be careful to ensure that your waste will be managed according to state and federal regulations. This is to protect your company from the liability risks that you face as a generator.

If possible, have a representative of your facility visit the treatment or disposal facility before shipping wastes there. You can then assess for yourself how your wastes will be managed. If a visit to the treatment or disposal facility is not possible, contact the regulatory agency in the state the facility is located. Speak with the inspector of the treatment or disposal facility concerning that facility’s operating record and current regulatory status.

The following section provides suggested questions to ask the facility's sales representatives, state regulatory staff and, if visited, facility staff.

Selecting a Treatment or Disposal Facility

Questions should be asked of a facility's representative and environmental officials in the state where the facility is located. The following questions should be addressed to the facility representative.

- Are they acting as the final treatment/disposal facility or are they a broker? If they are a broker, how is the actual facility going to treat or dispose of the waste?
- Who are some of their other customers in your area with similar wastes? Check the company's reputation with their other customers.
- How will the waste be transported to the facility? Does the company use their own vehicles or a contract carrier? Who is the contract carrier?
- Obtain a copy of the company's EPA Notification of Regulated Waste Activity (Form 8700-12) and copies of portions of permits that cover the kinds of wastes handled at the facility.
- Does the facility have a minimum charge for their services for each shipment?
- Is a waste sample required? If so, what fee is assessed for analysis? If you have already had the waste analyzed by an outside laboratory, is that analysis acceptable?
- How long will it take to complete arrangements for shipment?

Contact the regulatory agency that monitors the facility. Ask to speak with the person most familiar with the site. Appendix J lists the name and telephone number for environmental agencies in states that have treatment or disposal facilities that often receive waste from Kansas hazardous waste generators. Some suggested questions to ask are:

- Is the facility currently in compliance with all regulations? If not, what are their deficiencies?
- Is the facility currently under any consent orders for past deficiencies?
- Has the facility received any fines in the past?
- How often is the facility inspected?
- Is the facility listed on the EPA National Priorities List (NPL) (Superfund cleanup) list?
- Is the facility transporter or contract carrier transporter registered as a hazardous waste transporter in Kansas?

Before Arranging a Waste Shipment

- Obtain a copy of the facility's certificate of insurance.
- Obtain a contract with the facility for their services. Know where your waste is going, how it is being managed, and the disposition of any residues, ash, and empty drums.

IX. How to Avoid Compliance Problems and Minimize Liability

The following recommendations are intended to help ensure compliance with the hazardous waste regulations and to minimize the liability associated with generating hazardous wastes.

- Locate and deal with reputable transportation, treatment, and disposal firms (see Section VIII). If the price quote is substantially less than the competition, there is probably a reason why.
- Have backup transporters and disposal sites selected in case your primary provider has problems.
- Recognize when you lack the expertise to handle a particular problem and seek help from a person with experience in hazardous waste management. See Section X for assistance.
- Follow up on all hazardous waste shipments to ensure they reach their intended destination and are treated or disposed.
- Do not mix hazardous wastes with nonhazardous wastes. The resultant mixture will be a hazardous waste and may be more difficult or costly to dispose than the original waste.
- Maintain all records regarding the hazardous waste program (test results, contingency plan, manifests, exception reports, annual reports, training documents) in one location.
- Designate at least one employee with an appropriate background to be responsible for hazardous waste management. Give that employee the authority and resources to do the job, and then hold him or her accountable.
- Conduct inspections of your facility and its operations. Do so with an open mind and no preconceived notions of the way things ought to be.

X. Resources Available to Assist in Properly Managing Hazardous Waste

Kansas Department of Health and Environment (KDHE)

The KDHE Bureau of Waste Management (BWM) in Topeka is the primary source of regulatory information and interpretations. BWM staff can be contacted by calling (785) 296-1600 or by writing to:

Bureau of Waste Management
Curtis State Office Building
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366

KDHE also has six district offices in Kansas. Staff members with hazardous waste program expertise are located in each of these district offices. The address and telephone number for each KDHE district office is listed in Table 4. This information as well as a map denoting district boundaries is available on the KDHE website: www.kdheks.gov/directions/index.html.

KDHE periodically offers training opportunities throughout the state. For information concerning training or other questions pertaining to hazardous waste regulation, you may contact the BWM Topeka Office at (785) 296-1600.

BWM also has Technical Guidance Documents (TGDs) available for distribution that cover a range of topics that augment the hazardous waste statutes and regulations. The TGDs and other information are available on the KDHE website: www.kdhe.ks.gov/waste.

The Kansas statutes and regulations generally mirror federal laws and regulations, but there are some differences between the state and federal programs. Therefore, KDHE staff should be consulted prior to acting on any information that requires a regulatory interpretation.

TABLE 4

KDHE DISTRICT OFFICES

North West District Office 2301 East 13th Street Hays, KS 67601-2651 (785) 625-5663	North Central District Office 2501 Market Place, Suite D Salina, KS 67401-7699 (785) 827-9639	Northeast District Office 800 West 24th Street Lawrence, KS 66046-4417 (785) 842-4600
South West District Office 302 West McArtor Road Dodge City, KS 67801-6098 (620) 225-0596	South Central District Office 130 S. Market, Suite 6050 Wichita, KS 67202-3802 (316) 337-6020	South East District Office 1500 West 7th Street Chanute, KS 66720-9701 (620) 431-2390

U.S. Environmental Protection Agency (EPA)

EPA provides information on the federal hazardous waste regulations to interested parties. If you have questions, please visit one of EPA's websites listed below. Also, EPA staffs a regional office in Kansas City, Kansas (EPA Region VII). The Region VII office maintains a library of current regulations, guidance documents, and training manuals. Many of these materials are available to the public at no cost. The telephone number for the Region VII Information Resources Center is (913) 551-7241. The EPA websites are:

General Waste Information: www.epa.gov/osw

Answers to Frequently Asked Questions (FAQs)*: www.epa.gov/epaoswer/osw/basifact.htm

Ask a Question*: waste.custhelp.com/cgi-bin/waste.cfg/php/enduser/std_alp.php

* Please remember that these FAQ answers are based on the federal regulations. Kansas regulations and regulatory interpretations may be different.

Other Sources of Training/Information

- **Kansas State University**

  The Small Business Environmental Assistance Program (SBEAP) provides guidance in compliance and technical matters to facilities that otherwise would not have access to such help because of financial constraints. SBEAP emphasizes assistance designed to diminish the burden of compliance and the SBEAP staff will work with you to implement pollution prevention practices such as material substitution, process optimization, waste minimization, and recycling. All services provided by the SBEAP are completely confidential, non-regulatory, and free. The SBEAP program is administered by the Pollution Prevention Institute (PPI) at Kansas State University (KSU) for KDHE. Contact PPI at 1-800-578-8898 or at SBEAP@ksu.edu. More information may be obtained from the SBEAP website: www.sbeap.org/.

- **University of Kansas**

  The University of Kansas (KU) offers a number of training opportunities through its Division of Continuing Education. For specific information, contact the Division at (785) 491-0221.

- **Other Institutions**

  Other Kansas colleges, universities, and community colleges offer environmental training. For information on any available training, contact the continuing education director at the institution.

- **Trade Associations**

  Numerous trade associations exist on local, state, and national levels that represent the interests of individuals or companies who perform a common industrial activity. These associations are generally familiar with the regulations affecting the industry they represent and are able to offer advice and assistance in interpreting the regulations. Some associations also offer training courses, seminars, or conferences focusing on the interpretation and application of regulations.

- **Technical Journals/Publications**

  There are various technical journals and publications available that address specific areas of the hazardous waste handling. You may find some of these publications at local libraries. It is most probable, however, that you will find the greatest numbers of these publications at major university libraries.

Commercial Services/Supplies

- **Label Suppliers**

  Appendix E contains a list of companies that sell signs, labels, placards, and related materials necessary to comply with the hazardous waste regulations.

- **Container Suppliers**

  Appendix F contains a list of firms that sell drums acceptable for storing and transporting hazardous wastes.

Professional Services

- **Laboratories**

  In order for a business, industry, government agency, or institution to evaluate wastes generated for the hazardous waste characteristics of ignitability, reactivity, corrosivity, and toxicity, it may be necessary to conduct laboratory analyses. For information on laboratories that are certified by KDHE, please call (785) 296-1639 or visit the website at www.kdheks.gov/envlab/disclaimer.html.

- **Hazardous Waste Facilities**
  Appendices B, C, and D provide lists of commercial hazardous waste management facilities sites, used oil collectors, and battery and electronics recyclers. Appendices G and H provide lists of companies that manage mercury related wastes and other specific wastes. Before dealing with any company, a generator should ensure that the facility has current permits for the type of activities conducted by the firm and may wish to check the environmental regulatory agency for the state where the facility is located to determine if the facility is in compliance with that state's environmental regulations. A list of state environmental (regulatory) agencies is provided in Appendix J.

- **Consultants**

  There are numerous local, regional, and national consulting firms that offer professional services on a fee basis. These consultants can assist in regulatory interpretation, facility design, construction oversight, process design, etc. If you choose to employ a consultant, KDHE recommends you and your consultant meet with KDHE to discuss any proposed projects prior to initiating the project. This should ensure both you and your consultant are aware of regulatory requirements specific to Kansas.

When selecting a consultant, you should:

- Consider the qualifications of the consultant. Be sure the consultant has experience in the hazardous waste field and is capable of performing the task at hand.

- Check with recent clients of the consultants to ascertain the quality of the work performed.

- Request proposals from at least three candidate consultants. If desired, personally interview each of the three.

- Rank the three consultants and select the most qualified.

Appendix A

F - List

Hazardous Wastes from Non-Specific Sources

Industry and EPA Hazardous Waste Number	Hazardous Waste (Hazard Code*)
F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (T)
F002	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (T)
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (I)
F004	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (T)
F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. (I, T)
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum. (T)
F007	Spent cyanide plating bath solutions from electroplating operations. (R, T)
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process. (R, T)
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process. (R, T)

F010 ..... Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process. (R, T)

F011 ..... Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations (R, T)

F012 ..... Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process. (T)

F019 ..... Wastewater treatment sludges from the chemical conversion coating of aluminum. (T)

F020 ..... Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.) (H)

F021 ..... Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives. (H)

F022 ..... Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions. (H)

F023 ..... Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of hexachlorophene from highly purified 2,4,5-trichlorophenol.) (H)

F024 ..... Wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes from the production of chlorinated aliphatic hydrocarbons, having carbon content from one to five, utilizing free radical catalyzed processes. [This listing does not include light ends, spent filters and filter aids, spent desiccants, wastewater, wastewater treatment sludges, spent catalysts, and wastes listed in 40 CFR 261.31 or 261.32.] (T)

F025 ..... Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (T)

F026 ..... Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions. (H)

F027 ..... Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing hexachlorophene sythesized from prepurified 2,4,5-trichlorophenol as the sole component.) (H)

F028 ..... Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027. (T)

F032 ..... Wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic

formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with 40 CFR 261.35 and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. (Note: The listing of wastewaters that have not come into contact with process contaminants is stayed administratively. The listing for plants that have previously used chlorophenolic formulations is administratively stayed whenever these wastes are covered by the F034 or F035 listings. These stays will remain in effect until further administrative action is taken.) (T)

F034 ..... Wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving process generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. (Note: The listing of wastewaters that have not come into contact with process contaminants is stayed administratively. The stay will remain in effect until further administrative action is taken.) (T)

F035 ..... Wastewaters, process residuals, preservative drippage, and spent formulations from wood preserving process generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. (Note: The listing of wastewaters that have not come into contact with process contaminants is stayed administratively. The stay will remain in effect until further administrative action is taken.) (T)

F037 ..... Petroleum refinery primary oil/water/solids separation sludge- Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in: oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in 40 CFR 261.31(b)(2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing. (T)

F038 ..... Petroleum refinery secondary (emulsified) oil/water/solids separation sludge- Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in dissolved air flotation (DAF) units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in 40 CFR 261.31(b)(2) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing. (T)

F039 ..... Leachate (liquids that have percolated through land disposal wastes) resulting from the disposal of more than one restricted waste classified as hazardous under subpart D of this part. (Leachate resulting from the disposal of one or more of the following EPA Hazardous Wastes and no other Hazardous Wastes retains its EPA Hazardous Waste Number(s): F020, F021, F022, F026, F027, and/or F028) (T)

* Hazard Codes

I	Ignitable Waste	E	Toxicity Characteristic Waste
C	Corrosive Waste	H	Acutely Hazardous Waste
R	Reactive Waste	T	Toxic Waste

K-List

Hazardous Wastes from Specific Sources

Industry and EPA Hazardous Waste Number	Hazardous Waste (Hazard Code*)

Wood preservation:

K001 ..... Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol. (T)

Inorganic pigments:

K002 ..... Wastewater treatment sludge from the production of chrome yellow and orange pigments. (T)
K003 ..... Wastewater treatment sludge from the production of molybdate orange pigments. (T)
K004 ..... Wastewater treatment sludge from the production of zinc yellow pigments. (T)
K005 ..... Wastewater treatment sludge from the production of chrome green pigments. (T)
K006 ..... Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated) (T)
K007 ..... Wastewater treatment sludge from the production of iron blue pigments. (T)
K008 ..... Oven residue from the production of chrome oxide green pigments. (T)

Organic chemicals:

K009 ..... Distillation bottoms from the production of acetaldehyde from ethylene. (T)
K010 ..... Distillation side cuts from the production of acetaldehyde from ethylene. (T)
K011 ..... Bottom stream from the wastewater stripper in the production of acrylonitrile. (R, T)
K013 ..... Bottom stream from the acetonitrile column in the production of acrylonitrile. (R, T)
K014 ..... Bottoms from the acetonitrile purification column in the production of acrylonitrile. (T)
K015 ..... Still bottoms from the distillation of benzyl chloride. (T)
K016 ..... Heavy ends or distillation residues from the production of carbon tetrachloride. (T)
K017 ..... Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin. (T)
K018 ..... Heavy ends from the fractionation column in ethyl chloride production. (T)
K019 ..... Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production. (T)
K020 ..... Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production. (T)
K021 ..... Aqueous spent antimony catalyst waste from fluoromethanes production. (T)
K022 ..... Distillation bottom tars from the production of phenol/acetone from cumene. (T)
K023 ..... Distillation light ends from the production of phthalic anhydride from naphthalene. (T)
K024 ..... Distillation bottoms from the production of phthalic anhydride from naphthalene. (T)
K025 ..... Distillation bottoms from the production of nitrobenzene by the nitration of benzene. (T)
K026 ..... Stripping still tails from the production of methy ethyl pyridines. (T)
K027 ..... Centrifuge and distillation residues from toluene diisocyanate production. (R, T)
K028 ..... Spent catalyst from the hydrochlorinator reactor in the production 1,1,1-trichloroethane. (T)
K029 ..... Waste from the product steam stripper in the production of 1,1,1-trichloroethane. (T)
K030 ..... Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene. (T)
K083 ..... Distillation bottoms from aniline production. (T)
K085 ..... Distillation or fractionation column bottoms from the production of chlorobenzenes. (T)
K093 ..... Distillation light ends from the production of phthalic anhydride from ortho-xylene. (T)
K094 ..... Distillation bottoms from the production of phthalic anhydride from ortho-xylene. (T)
K095 ..... Distillation bottoms from the production of 1,1,1-trichloroethane. (T)
K096 ..... Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane. (T)

K103 ..... Process residues from aniline extraction from the production of aniline. (T)

K104 ..... Combined wastewater streams generated from nitrobenzene/aniline production. (T)

K105 ..... Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes. (T)

K107 ..... Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazines. (C,T)

K108 ..... Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides. (I,T)

K109 ..... Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides. (T)

K110 ..... Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazines. (T)

K111 ..... Product wash waters from the production of dinitrotoluene via nitration of toluene. (C,T)

K112 ..... Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene. (T)

K113 ..... Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene. (T)

K114 ..... Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene. (T)

K115 ..... Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene. (T)

K116 ..... Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine. (T)

K117 ..... Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene. (T)

K118 ..... Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene. (T)

K136 ..... Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene. (T)

K149 ..... Distillation bottoms from the production of alpha- (or methyl) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. (This waste does not include still bottoms from the distillation of benzyl chloride.) (T)

K150 ..... Organic residues, excluding spent carbon absorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl) chlorinated toluenes, ring-chlorinated toluenes, benzyol chlorides, and compounds with mixtures of these functional groups. (T)

K151 ..... Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. (T)

K156 ..... Organic waste (including heavy ends, still bottoms, light ends spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes. (This listing does not apply to waste generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.) (T)

K157 ..... Wastewaters (including scrubber waters, condenser waters, wash waters, and separation waters) from the production of carbamates and carbamoyl oximes. (This listing does not apply to waste generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.) (T)

K158 ..... Bag house dusts and filter/separation solids from the production of carbamates and carbamoyl oxmines. (This listing does not apply to waste generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.) (T)

K159 ..... Organics from the treatment of thiocarbamate wastes. (T)

K161 ..... Purification solids (including filtration, evaporation, and centrifugation solids), bag house dusts and floor sweepings from the production of dithiocarbamate acids and their salts. (This listing does not include K125 and K126.) (R, T)

K174 ..... Wastewater treatment sludges from the production of ethylene dichloride or vinyl chloride monomer (including sludges that results from commingled ethylene dichloride or vinyl chloride monomer wastewater and other wastewater), unless the sludges meet the following conditions: (i) they are disposed of in a subtitle C or non-hazardous landfill licensed or permitted by the state or federal government; (ii) they are not otherwise placed on the land prior to final disposal; and (iii) the generator maintains documentation demonstrating that the waste was either disposed of in an on-site landfill or consigned to a transporter or disposal facility that provided a written commitment to dispose of the waste in an off-site landfill. Respondents in any action brought to enforce the requirements of subtitle C must, upon a showing by the government that the respondent managed wastewater treatment sludges from the production of vinyl chloride monomer or ethylene dichloride, demonstrate that they meet the terms of the exclusion set forth above. In doing so, they must provide appropriate documentation (e.g., contracts between the generator and the landfill owner/operator, invoices documenting delivery of waste to landfill, etc.) that the terms of the exclusion were met. (T)

K175 ..... Wastewater treatment sludges from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process. (T)

Inorganic chemicals:

K071 ..... Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used. (T)

K073 ..... Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production. (T)

K106 ..... Wastewater treatment sludge from the mercury cell process in chlorine production. (T)

K176 ..... Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide). (E)

K177 ..... Slag from the production of antimony oxide that is speculatively accumulated or disposed, including slag from the production of intermediates (e.g., antimony metal or crude antimony oxide). (T)

K178 ..... Residues from manufacturing and manufacturing-site storage of ferric chloride from acids formed during the production of titanium dioxide using the chloride-ilmenite process. (T)

Pesticides:

K031 ..... By-product salts generated in the production of MSMA and cacodylic acid. (T)

K032 ..... Wastewater treatment sludge from the production of chlordane. (T)

K033 ..... Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane. (T)

K034 ..... Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane. (T)

K035 ..... Wastewater treatment sludges generated in the production of creosote. (T)

K036 ..... Still bottoms from toluene reclamation distillation in the production of disulfoton. (T)

K037 ..... Wastewater treatment sludges from the production of disulfoton. (T)

K038 ..... Wastewater from the washing and stripping of phorate production. (T)

K039 ..... Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate. (T)

K040 ..... Wastewater treatment sludge from the production of phorate. (T)

K041 ..... Wastewater treatment sludge from the production of toxaphene. (T)

K042 ..... Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T. (T)

K043 ..... 2,6-Dichlorophenol waste from the production of 2,4-D. (T)

K097 ..... Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane. (T)

K098 ..... Untreated process wastewater from the production of toxaphene. (T)
K099 ..... Untreated wastewater from the production of 2,4-D. (T)
K123 ..... Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt. (T)
K124 ..... Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts. (C, T)
K125 ..... Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts. (T)
K126 ..... Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts. (T)
K131 ..... Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide. (C , T)
K132 ..... Spent absorbent and wastewater treatment separator solids from the production of methyl bromide. (T)

Explosives:

K044 ..... Wastewater treatment sludges from the manufacturing and processing of explosives. (R)
K045 ..... Spent carbon from the treatment of wastewater containing explosives. (R)

K046 ..... Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds. (T)
K047 ..... Pink/red water from TNT operations. (R)

Petroleum refining:

K048 ..... Dissolved air flotation (DAF) float from the petroleum refining industry. (T)
K049 ..... Slop oil emulsion solids from the petroleum refining industry. (T)
K050 ..... Heat exchanger bundle cleaning sludge from the petroleum refining industry. (T)
K051 ..... API separator sludge from the petroleum refining industry. (T)
K052 ..... Tank bottoms (leaded) from the petroleum refining industry. (T)
K169..... Crude oil storage tank sediment from petroleum refining operations. (T)
K170..... Clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations. (T)
K171..... Spent hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurise feeds to other catalytic reactors (this listing does not include inert support media). (I,T)
K172..... Spent hydrorefining catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media). (I,T)

Iron and steel:

K061 ..... Emission control dust/sludge from the primary production of steel in electric furnaces. (T)
K062 ..... Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332). (C,T)

Primary copper:

Primary lead:

Primary zinc:

Primary aluminum:

K088 ..... Spent potliners from primary aluminum reduction. (T)

Ferroalloys:

Secondary lead:

K069 ..... Emission control dust/sludge from secondary lead smelting. (T) (See note in 40 CFR 261.32.)

K100 ..... Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting. (T)

Veterinary pharmaceuticals:

K084 ..... Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. (T)

K101 ..... Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. (T)

K102 ..... Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. (T)

Ink formulation:

K086 ..... Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead. (T)

Coking:

K060 ..... Ammonia still lime sludge from coking operations. (T)

K087 ..... Decanter tank tar sludge from coking operations. (T)

K141 ..... Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations). (T)

K142 ..... Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal. (T)

K143 ..... Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal. (T)

K144 ..... Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal. (T)

K145 ..... Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal. (T)

K147 ..... Tar storage tank residues from coal tar refining. (T)

K148 ..... Residuals from coal tar distillation, including but not limited to, still bottoms. (T)

* Hazard Codes

- I Ignitable Waste
- C Corrosive Waste
- R Reactive Waste
- E Toxicity Characteristic Waste
- H Acutely Hazardous Waste
- T Toxic Waste

P-LIST

Discarded Acutely Toxic Commercial Chemical Products, Off-Specification Species, Container Residues, and Spill Cleanup Material

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
P023	107 - 20 - 0	Acetaldehyde, chloro-	
P002	591 - 08 - 2	Acetamide, N-(aminothioxomethyl)-	
P057	640 - 19 - 7	Acetamide, 2-fluoro-	
P058	62 - 74 - 8	Acetic acid, fluoro-, sodium salt	
P002	591 - 08 - 2	1-Acetyl-2-thiourea	
P003	107 - 02 - 8	Acrolein	
P070	116 - 06 - 3	Aldicarb	
P004	309 - 00 - 2	Aldrin	
P005	107 - 18 - 6	Allyl alcohol	
P006	20859 - 73 - 8	Aluminum phosphide	R, T
P007	2763 - 96 - 4	5-(Aminomethyl)-3-isoxazolol	
P008	504 - 24 - 5	4-Aminopyridine	
P009	131 - 74 - 8	Ammonium picrate	R
P119	7803 - 55 - 6	Ammonium vanadate	
P099	506 - 61 - 6	Argentate(1-), bis(cyano-C)-, potassium	
P010	7778 - 39 - 4	Arsenic acid H_3AsO_4	
P012	1327 - 53 - 3	Arsenic oxide As_2O_3	
P011	303 - 28 - 2	Arsenic oxide As_2O_5	
P011	303 - 28 - 2	Arsenic pentoxide	
P012	1327 - 53 - 3	Arsenic trioxide	
P038	692 - 42 - 2	Arsine, diethyl-	
P036	696 - 28 - 6	Arsonous dichloride, phenyl-	
P054	151 - 56 - 4	Aziridine	
P067	75 - 55 - 8	Aziridine, 2-methyl-	
P013	542 - 62 - 1	Barium cyanide	
P024	106 - 47 - 8	Benzenamine, 4-chloro-	
P077	100 - 01 - 6	Benzenamine, 4-nitro-	
P028	100 - 44 - 7	Benzene, (chloromethyl)-	
P042	51 - 43 - 4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-	
P046	122 - 09 - 8	Benzeneethanamine, alpha,alpha-dimethyl-	
P014	108 - 98 - 5	Benzenethiol	
P127	1563 - 66 - 2	7-Benzofuranol, 2,3dihydro-2,2-dimethyl-, methlycarbamate	
P188	57 - 64 - 7	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1).	
P001	81 - 81 - 2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%	
P028	100 - 44 - 7	Benzyl chloride	
P015	7440 - 41 - 7	Beryllium	
P017	598 - 31 - 2	Bromoacetone	

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
P018	357 - 57 - 3	Brucine	
P045	39196 - 18 - 4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[methylamino)carbonyl]oxime	
P021	592 - 01 - 8	Calcium cyanide	
P021	592 - 01 - 8	Calcium cyanide $Ca(CN)_2$	
P189	55285 - 14 - 8	Carbamic acid, [(dibutylamino)- thio]methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester.	
P191	644 - 64 - 4	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]-5-methyl-1H-pyrazol-5-yl ester.	
P192	119 - 38 - 0	Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester.	
P190	1129 - 41 - 5	Carbamic acid, methyl-, 3-methylphenyl ester.	
P127	1563 - 66 - 2	Carbofuran.	
P022	75 - 15 - 0	Carbon disulfide	
P095	75 - 44 - 5	Carbonic dichloride	
P189	55285 - 14 - 8	Carbosulfan.	
P023	107 - 20 - 0	Chloroacetaldehyde	
P024	106 - 47 - 8	p-Chloroaniline	
P026	5344 - 82 - 1	1-(o-Chlorophenyl)thiourea	
P027	542 - 76 - 7	3-Chloropropionitrile	
P029	544 - 92 - 3	Copper cyanide	
P029	544 - 92 - 3	Copper cyanide Cu(CN)	
P030	None	Cyanides (soluble cyanide salts), not otherwise specified	
P031	460 - 19 - 5	Cyanogen	
P033	506 - 77 - 4	Cyanogen chloride	
P033	506 - 77 - 4	Cyanogen chloride (CN)Cl	
P034	131 - 89 - 5	2-Cyclohexyl-4,6-dinitrophenol	
P016	542 - 88 - 1	Dichloromethyl ether	
P036	696 - 28 - 6	Dichlorophenylarsine	
P037	60 - 57 - 1	Dieldrin	
P038	692 - 42 - 2	Diethylarsine	
P041	311 - 45 - 5	Diethyl-p-nitrophenyl phosphate	
P040	297 - 97 - 2	O,O-Diethyl O-pyrazinyl phosphorothioate	
P043	55 - 91 - 4	Diisopropylfluorophosphate (DFP)	
P004	309 - 00 - 2	1,4,5,8-Dimethanonaphthalene,1,2,3,4,10,10-hexa-chloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-	
P060	465 - 73 - 6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10 –hexa-chloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-	
P037	60 - 57 - 1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene,3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta, 7aalpha)-	
P051	72 - 20 - 8	2,7:3,6-Dimethanonaphth [2,3-b]oxirene,3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,	

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
		7beta,7aalpha)-,&metabolites	
P044	60 - 51 - 5	Dimethoate	
P046	122 - 09 - 8	alpha,alpha-Dimethylphenethylamine	
P191	644 - 64 - 4	Dimetilan.	
P047	534 - 52 - 1	4,6-Dinitro-o-cresol, & salts	
P048	51 - 28 - 5	2,4-Dinitrophenol	
P020	88 - 85 - 7	Dinoseb	
P085	152 - 16 - 9	Diphosphoramide, octamethyl-	
P111	107 - 49 - 3	Diphosphoric acid, tetraethyl ester	
P039	298 - 04 - 4	Disulfoton	
P049	541 - 53 - 7	Dithiobiuret	
P185	26419 - 73 - 8	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino)- carbonyl]oxmine	
P050	115 - 29 - 7	Endosulfan	
P088	145 - 73 - 3	Endothall	
P051	72 - 20 - 8	Endrin	
P051	72 - 20 - 8	Endrin, & metabolites	
P042	51 - 43 - 4	Epinephrine	
P031	460 - 19 - 5	Ethanedinitrile	
P194	23135 - 22 - 0	Ethanimidothioic acid, 2-(dimethylamino)-N-[[methylamino) carbonyl]oxy]-2-oxo-, methyl ester.	
P066	16752 - 77 - 5	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester	
P101	107 - 12 - 0	Ethyl cyanide	
P054	151 - 56 - 4	Ethyleneimine	
P097	52 - 85 - 7	Famphur	
P056	7782 - 41 - 4	Fluorine	
P057	640 - 19 - 7	Fluoroacetamide	
P058	62 - 74 - 8	Fluoroacetic acid, sodium salt	
P198	23422 - 53 - 9	Formetanate hydrochloride.	
P197	17702 - 57 - 7	Formparanate.	
P065	628 - 86 - 4	Fulminic acid, mercury(2+) salt	R, T
P059	76 - 44 - 8	Heptachlor	
P062	757 - 58 - 4	Hexaethyl tetraphosphate	
P116	79 - 19 - 6	Hydrazinecarbothioamide	
P068	60 - 34 - 4	Hydrazine, methyl-	
P063	74 - 90 - 8	Hydrocyanic acid	
P063	74 - 90 - 8	Hydrogen cyanide	
P096	7803 - 51 - 2	Hydrogen phosphide	
P060	465 - 73 - 6	Isodrin	
P007	2763 - 96 - 4	3(2H)-Isoxazolone, 5-(aminomethyl)-	
P196	15339 - 36 - 3	Manganese, bis(dimethylcarbamodithioate-S,S')-	
P196	15339 - 36 - 3	Manganese dimethyldithiocarbamate.	
P092	62 - 38 - 4	Mercury, (acetato-O)phenyl-	
P065	628 - 86 - 4	Mercury fulminate	R, T
P082	62 - 75 - 9	Methanamine, N-methyl-N-nitroso-	
P064	624 - 83 - 9	Methane, isocyanato-	
P016	542 - 88 - 1	Methane, oxybis[chloro-	

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
P112	509 - 14 - 8	Methane, tetranitro-	R
P118	75 - 70 - 7	Methanethiol, trichloro-	
P198	23422 - 53 - 9	Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride.	
P197	17702 - 57 - 7	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[(methylamino)carboyl]oxy]phenyl]-	
P050	115 - 29 - 7	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide	
P059	76 - 44 - 8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	
P199	2032 - 65 - 7	Methiocarb.	
P066	16752 - 77 - 5	Methomyl	
P068	60 - 34 - 4	Methyl hydrazine	
P064	624 - 83 - 9	Methyl isocyanate	
P069	75 - 86 - 5	2-Methyllactonitrile	
P071	298 - 00 - 0	Methyl parathion	
P190	1129 - 41 - 5	Metolcarb.	
P128	315 - 8 - 4	Mexacarbate.	
P072	86 - 88 - 4	alpha-Naphthylthiourea	
P073	13463 - 39 - 3	Nickel carbonyl	
P073	13463 - 39 - 3	Nickel carbonyl $Ni(CO)_4$, (T-4)-	
P074	557 - 19 - 7	Nickel cyanide	
P074	557 - 19 - 7	Nickel cynaide $Ni(CN)_2$	
P075	54 - 11 - 5	Nicotine, & salts	
P076	10102 - 43 - 9	Nitric oxide	
P077	100 - 01 - 6	p-Nitroaniline	
P078	10102 - 44 - 0	Nitrogen dioxide	
P076	10102 - 43 - 9	Nitrogen oxide NO	
P078	10102 - 44 - 0	Nitrogen oxide NO_2	
P081	55 - 63 - 0	Nitroglycerine	R
P082	62 - 75 - 9	N-Nitrosodimethylamine	
P084	4549 - 40 - 0	N-Nitrosomethylvinylamine	
P085	152 - 16 - 9	Octamethylpyrophosphoramide	
P087	20816 - 12 - 0	Osmium oxide OsO_4, (T-4)-	
P087	20816 - 12 - 0	Osmium tetroxide	
P088	145 - 73 - 3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid	
P194	23135 - 22 - 0	Oxamyl.	
P089	56 - 38 - 2	Parathion	
P034	131 - 89 - 5	Phenol, 2-cyclohexyl-4,6-dinitro-	
P048	51 - 28 - 5	Phenol, 2,4-dinitro-	
P047	534 - 52 - 1	Phenol, 2-methyl-4,6-dinitro-, & salts	
P020	88 - 85 - 7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	
P009	131 - 74 - 8	Phenol, 2,4,6-trinitro-, ammonium salt	R
P128	315 - 18 - 4	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester).	
P199	2032 - 65 - 7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate	
P202	64 - 00 - 6	Phenol, 3-(methylethyl)- methyl carbamate.	

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
P201	2631 - 37 - 0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate.	
P092	62 - 38 - 4	Phenylmercury acetate	
P093	103 - 85 - 5	Phenylthiourea	
P094	298 - 02 - 2	Phorate	
P095	75 - 44 - 5	Phosgene	
P096	7803 - 51 - 2	Phosphine	
P041	311 - 45 - 5	Phosphoric acid, diethyl 4-nitrophenyl ester	
P039	298 - 04 - 4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester	
P094	298 - 02 - 2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	
P044	60 - 51 - 5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino) -2-oxoethyl] ester	
P043	55 - 91 - 4	Phosphorofluoridic acid, bis(1-methylethyl) ester	
P089	56 - 38 - 2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester	
P040	297 - 97 - 2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	
P097	52 - 85 - 7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester	
P071	298 - 00 - 0	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester	
P204	57 - 47 - 6	Physostigmine.	
P188	57 - 64 - 7	Physostigmine salicylate.	
P110	78 - 00 - 2	Plumbane, tetraethyl-	
P098	151 - 50 - 8	Potassium cyanide	
P098	151 - 50 - 8	Potassium cyanide K(CN)	
P099	506 - 61 - 6	Potassium silver cyanide	
P201	2631 - 37 - 0	Promecarb	
P070	116 - 06 - 3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime	
P203	1646 - 88 - 4	Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxmine	
P101	107 - 12 - 0	Propanenitrile	
P027	542 - 76 - 7	Propanenitrile, 3-chloro-	
P069	75 - 86 - 5	Propanenitrile, 2-hydroxy-2-methyl-	
P081	55 - 63 - 0	1,2,3-Propanetriol, trinitrate	R
P017	598 - 31 - 2	2-Propanone, 1-bromo-	
P102	107 - 19 - 7	Propargyl alcohol	
P003	107 - 02 - 8	2-Propenal	
P005	107 - 18 - 6	2-Propen-1-ol	
P067	75 - 55 - 8	1,2-Propylenimine	
P102	107 - 19 - 7	2-Propyn-1-ol	
P008	504 - 24 - 5	4-Pyridinamine	
P075	54 - 11 - 5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts	
P204	57 - 47 - 6	Pyrrolo[2,3-b]indol-5-ol-, 1,2,3,3a,8,8a-hexahydro- 1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-.	
P114	12039 - 52 - 0	Selenious acid, dithallium(1+) salt	
P103	630 - 10 - 4	Selenourea	

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
P104	506 - 64 - 9	Silver cyanide	
P104	506 - 64 - 9	Silver cyanide Ag(CN)	
P105	26628 - 22 - 8	Sodium azide	
P106	143 - 33 - 9	Sodium cyanide	
P106	143 - 33 - 9	Sodium cyanide Na(CN)	
P108	57 - 24 - 9	Strychnidin-10-one, & salts	
P018	357 - 57 - 3	Strychnidin-10-one, 2,3-dimethoxy-	
P108	57 - 24 - 9	Strychnine, & salts	
P115	7446 - 18 - 6	Sulfuric acid, dithallium(1+) salt	
P109	3689 - 24 - 5	Tetraethyldithiopyrophosphate	
P110	78 - 00 - 2	Tetraethyl lead	
P111	107 - 49 - 3	Tetraethyl pyrophosphate	
P112	509 - 14 - 8	Tetranitromethane	R
P062	757 - 58 - 4	Tetraphosphoric acid, hexaethyl ester	
P113	1314 - 32 - 5	Thallic oxide	
P113	1314 - 32 - 5	Thallium oxide Tl_2O_3	
P114	12039 - 52 - 0	Thallium(I) selenite	
P115	7446 - 18 - 6	Thallium(I) sulfate	
P109	3689 - 24 - 5	Thiodiphosphoric acid, tetraethyl ester	
P045	39196 - 18 - 4	Thiofanox	
P049	541 - 53 - 7	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$	
P014	108 - 98 - 5	Thiophenol	
P116	79 - 19 - 6	Thiosemicarbazide	
P026	5344 - 82 - 1	Thiourea, (2-chlorophenyl)-	
P072	86 - 88 - 4	Thiourea, 1-naphthalenyl-	
P093	103 - 85 - 5	Thiourea, phenyl-	
P185	26419 - 73 - 8	Tirpate.	
P123	8001 - 35 - 2	Toxaphene	
P118	75 - 70 - 7	Trichloromethanethiol	
P119	7803 - 55 - 6	Vanadic acid, ammonium salt	
P120	1314 - 62 - 1	Vanadium oxide V_2O_5	
P120	1314 - 62 - 1	Vanadium pentoxide	
P084	4549 - 40 - 0	Vinylamine, N-methyl-N-nitroso-	
P001	81 - 81 - 2	Warfarin, & salts, when present at concentrations greater than 0.3%	
P205	137 - 30 - 4	Zinc, bis(dimethylcarbamodithioate-S-S')-	
P121	557 - 21 - 1	Zinc cyanide	
P121	557 - 21 - 1	Zinc cyanide $Zn(CN)_2$	
P205	137 - 30 - 4	Ziram.	

* Hazard Codes

I	Ignitable Waste	E	Toxicity Characteristic Waste
C	Corrosive Waste	H	Acutely Hazardous Waste
R	Reactive Waste	T	Toxic Waste

U-LIST

Discarded Commercial Chemical Products, Off-Specification Species, Container Residues and Spill Cleanup Materials

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
U394	30558 - 43 - 1	A2213	
U001	75 - 07 - 0	Acetaldehyde	I
U034	75 - 87 - 6	Acetaldehyde, trichloro-	
U187	62 - 44 - 2	Acetamide, N-(4-ethoxyphenyl)-	
U005	53 - 96 - 3	Acetamide, N-9H-fluoren-2-yl-	
U240	94 - 75 - 7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters	
U112	141 - 78 - 6	Acetic acid ethyl ester	I
U144	301 - 04 - 2	Acetic acid, lead(2+) salt	
U214	563 - 68 - 8	Acetic acid, thallium(1+) salt	
See F027	93 - 76 - 5	Acetic acid, (2,4,5-trichlorophenoxy)-	
U002	67 - 64 - 1	Acetone	I
U003	75 - 05 - 8	Acetonitrile	I, T
U004	98 - 86 - 2	Acetophenone	
U005	53 - 96 - 3	2-Acetylaminofluorene	
U006	75 - 36 - 5	Acetyl chloride	C, R, T
U007	79 - 06 - 1	Acrylamide	
U008	79 - 10 - 7	Acrylic acid	I
U009	107 - 13 - 1	Acrylonitrile	
U011	61 - 82 - 5	Amitrole	
U012	62 - 53 - 3	Aniline	I, T
U136	75 - 60 - 5	Arsinic acid, dimethyl-	
U014	492 - 80 - 8	Auramine	
U015	115 - 02 - 6	Azaserine	
U010	50 - 07 - 7	Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta, 8aalpha,8balpha)]-	
U280	101 - 27 - 9	Barban.	
U278	22781 - 23 - 3	Bendiocarb.	
U364	22961 - 82 - 6	Bendiocarb phenol.	
U271	17804 - 35 - 2	Benomyl.	
U157	56 - 49 - 5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	
U016	225 - 51 - 4	Benz[c]acridine	
U017	98 - 87 - 3	Benzal chloride	
U192	23950 - 58 - 5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	
U018	56 - 55 - 3	Benz[a]anthracene	
U094	57 - 97 - 6	Benz[a]anthracene, 7,12-dimethyl-	
U012	62 - 53 - 3	Benzenamine	I, T
U014	492 - 80 - 8	Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl-	

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
U049	3165 - 93 - 3	Benzenamine, 4-chloro-2-methyl-, hydrochloride	
U093	60 - 11 - 7	Benzenamine, N,N-dimethyl-4-(phenylazo)-	
U328	95 - 53 - 4	Benzenamine, 2-methyl-	
U353	106 - 49 - 0	Benzenamine, 4-methyl-	
U328	95 - 53 - 4	Benzenamine, 2-methyl-	
U353	106 - 49 - 0	Benzenamine, 4-methyl-	
U158	101 - 14 - 4	Benzenamine, 4,4'-methylenebis[2-chloro-	
U222	636 - 21 - 5	Benzenamine, 2-methyl-, hydrochloride	
U181	99 - 55 - 8	Benzenamine, 2-methyl-5-nitro-	
U019	71 - 43 - 2	Benzene	I, T
U038	510 - 15 - 6	Benzeneaceticacid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxyl-, ethyl ester	
U030	101 - 55 - 3	Benzene, 1-bromo-4-phenoxy-	
U035	305 - 03 - 3	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-	
U037	108 - 90 - 7	Benzene, chloro-	
U221	25376 - 45 - 8	Benzenediamine, ar-methyl-	
U028	117 - 81 - 7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	
U069	84 - 74 - 2	1,2-Benzenedicarboxylic acid, dibutyl ester	
U088	84 - 66 - 2	1,2-Benzenedicarboxylic acid, diethyl ester	
U102	131 - 11 - 3	1,2-Benzenedicarboxylic acid, dimethyl ester	
U107	117 - 84 - 0	1,2-Benzenedicarboxylic acid, dioctyl ester	
U070	95 - 50 - 1	Benzene, 1,2-dichloro-	
U071	541 - 73 - 1	Benzene, 1,3-dichloro-	
U072	106 - 46 - 7	Benzene, 1,4-dichloro-	
U060	72 - 54 - 8	Benzene, 1,1'-(2,2-dichloroethylidene) bis[4-chloro-	
U017	98 - 87 - 3	Benzene, (dichloromethyl)-	
U223	26471 - 62 - 5	Benzene, 1,3-diisocyanatomethyl-	R, T
U239	1330 - 20 - 7	Benzene, dimethyl-	I, T
U201	108 - 46 - 3	1,3-Benzenediol	
U127	118 - 74 - 1	Benzene, hexachloro-	
U056	110 - 82 - 7	Benzene, hexahydro-	I
U220	108 - 88 - 3	Benzene, methyl-	
U105	121 - 14 - 2	Benzene, 1-methyl-2,4-dinitro-	
U106	606 - 20 - 2	Benzene, 2-methyl-1,3-dinitro-	
U055	98 - 82 - 8	Benzene, (1-methylethyl)-	I
U169	98 - 95 - 3	Benzene, nitro-	
U183	608 - 93 - 5	Benzene, pentachloro-	
U185	82 - 68 - 8	Benzene, pentachloronitro-	
U020	98 - 09 - 9	Benzenesulfonic acid chloride	C, R
U020	98 - 09 - 9	Benzenesulfonyl chloride	C, R
U207	95 - 94 - 3	Benzene, 1,2,4,5-tetrachloro-	
U061	50 - 29 - 3	Benzene,1,1'-(2,2,2-trichloroethylidene) bis[4-chloro-	
U247	72 - 43 - 5	Benzene, 1,1'-(2,2,2-trichloroethylidene)	

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
		bis[4-methoxy-	
U023	98 - 07 - 7	Benzene, (trichloromethyl)-	
U234	99 - 35 - 4	Benzene, 1,3,5-trinitro-	
U021	92 - 87 - 5	Benzidine	
U202	81 - 07 - 2	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts	
U278	22781 - 23 - 3	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate.	
U364	22961 - 82 - 6	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,	
U203	94 - 59 - 7	1,3-Benzodioxole, 5-(2-propenyl)-	
U141	120 - 58 - 1	1,3-Benzodioxole, 5-(1-propenyl)-	
U367	1563 - 38 - 8	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-	
U090	94 - 58 - 6	1,3-Benzodioxole, 5-propyl-	
U064	189 - 55 - 9	Benzo[rst]pentaphene	
U248	81 - 81 - 2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, &salts, when present at concentrations of 0. 3% or less	
U022	50 - 32 - 8	Benzo[a]pyrene	
U197	106 - 51 - 4	p-Benzoquinone	
U023	98 - 07 - 7	Benzotrichloride	C, R, T
U085	1464 - 53 - 5	2,2'-Bioxirane	
U021	92 - 87 - 5	[1,1'-Biphenyl]-4,4'-diamine	
U073	91 - 94 - 1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-	
U091	119 - 90 - 4	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-	
U095	119 - 93 - 7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-	
U225	75 - 25 - 2	Bromoform	
U030	101 - 55 - 3	4-Bromophenyl phenyl ether	
U128	87 - 68 - 3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	
U172	924 - 16 - 3	1-Butanamine, N-butyl-N-nitroso-	
U031	71 - 36 - 3	1-Butanol	I
U159	78 - 93 - 3	2-Butanone	I, T
U160	1338 - 23 - 4	2-Butanone, peroxide	R, T
U053	4170 - 30 - 3	2-Butenal	
U074	764 - 41 - 0	2-Butene, 1,4-dichloro-	I, T
U143	303 - 34 - 4	2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-	
U031	71 - 36 - 3	n-Butyl alcohol	I
U136	75 - 60 - 5	Cacodylic acid	
U032	13765 - 19 - 0	Calcium chromate	
U372	10605 - 21 - 7	Carbamic acid, 1H-benzimidazol-2yl, methyl ester.	
U271	17804 - 35 - 2	Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-methyl ester.	
U280	101 - 27 - 9	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester.	
U238	51 - 79 - 6	Carbamic acid, ethyl ester	
U178	615 - 53 - 2	Carbamic acid, methylnitroso-, ethyl ester	

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
U373	122 - 42 - 9	Carbamic acid, phenyl-, 1-methylethyl ester.	
U409	23564 - 05 - 8	Carbamic acid, [1,2-phenylenebis (imiocarbonoythioyl)]bis-, dimethyl ester	
U097	79 - 44 - 7	Carbamic chloride, dimethyl-	
U389	2303 - 17 - 5	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester.	
U387	52888 - 80 - 9	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester	
U114	111 - 54 - 6	Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters	
U062	2303 - 16 - 4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester	
U279	63 - 25 - 2	Carbaryl.	
U372	10605 - 21 - 7	Carbendazim.	
U387	1563 - 38 - 8	Carbofuran phenol.	
U215	6533 - 73 - 9	Carbonic acid, dithallium(1+) salt	
U033	353 - 50 - 4	Carbonic difluoride	
U156	79 - 22 - 1	Carbonochloridic acid, methyl ester	I, T
U033	353 - 50 - 4	Carbon oxyfluoride	R, T
U211	56 - 23 - 5	Carbon tetrachloride	
U034	75 - 87 - 6	Chloral	
U035	305 - 03 - 3	Chlorambucil	
U036	57 - 74 - 9	Chlordane, alpha & gamma isomers	
U026	494 - 03 - 1	Chlornaphazin	
U037	108 - 90 - 7	Chlorobenzene	
U038	510 - 15 - 6	Chlorobenzilate	
U039	59 - 50 - 7	p-Chloro-m-cresol	
U042	110 - 75 - 8	2-Chloroethyl vinyl ether	
U044	67 - 66 - 3	Chloroform	
U046	107 - 30 - 2	Chloromethyl methyl ether	
U047	91 - 58 - 7	beta-Chloronaphthalene	
U048	95 - 57 - 8	o-Chlorophenol	
U049	3165 - 93 - 3	4-Chloro-o-toluidine, hydrochloride	
U032	13765 - 19 - 0	Chromic acid H_2CrO_4, calcium salt	
U050	218 - 01 - 9	Chrysene	
U051	None	Creosote	
U052	1319 - 77 - 3	Cresol (Cresylic acid)	
U053	4170 - 30 - 3	Crotonaldehyde	
U055	98 - 82 - 8	Cumene	I
U246	506 - 68 - 3	Cyanogen bromide (CN)Br	
U197	106 - 51 - 4	2,5-Cyclohexadiene-1,4-dione	
U056	110 - 82 - 7	Cyclohexane	I
U129	58 - 89 - 9	Cyclohexane, 1,2,3,4,5,6-hexachloro-, 1alpha,2alpha,3beta,4alpha,5alpha,6beta)-	
U057	108 - 94 - 1	Cyclohexanone	I
U130	77 - 47 - 4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	
U058	50 - 18 - 0	Cyclophosphamide	

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
U240	94 - 75 - 7	2,4-D, salts & esters	
U059	20830 - 81 - 3	Daunomycin	
U060	72 - 54 - 8	DDD	
U061	50 - 29 - 3	DDT	
U062	2303 - 16 - 4	Diallate	
U063	53 - 70 - 3	Dibenz[a,h]anthracene	
U064	189 - 55 - 9	Dibenzo[a,i]pyrene	
U066	96 - 12 - 8	1,2-Dibromo-3-chloropropane	
U069	84 - 74 - 2	Dibutyl phthalate	
U070	95 - 50 - 1	o-Dichlorobenzene	
U071	541 - 73 - 1	m-Dichlorobenzene	
U072	106 - 46 - 7	p-Dichlorobenzene	
U073	91 - 94 - 1	3,3'-Dichlorobenzidine	
U074	764 - 41 - 0	1,4-Dichloro-2-butene	I, T
U075	75 - 71 - 8	Dichlorodifluoromethane	
U078	75 - 35 - 4	1,1-Dichloroethylene	
U079	156 - 60 - 5	1,2-Dichloroethylene	
U025	111 - 44 - 4	Dichloroethyl ether	
U027	108 - 60 - 1	Dichloroisopropyl ether	
U024	111 - 91 - 1	Dichloromethoxy ethane	
U081	120 - 83 - 2	2,4-Dichlorophenol	
U082	87 - 65 - 0	2,6-Dichlorophenol	
U084	542 - 75 - 6	1,3-Dichloropropene	
U085	1464 - 53 - 5	1,2:3,4-Diepoxybutane	I, T
U108	123 - 91 - 1	1,4-Diethyleneoxide	
U028	117 - 81 - 7	Diethylhexyl phthalate	
U395	5952 - 26 - 1	Diethyene glycol, dicarbamate	
U086	1615 - 80 - 1	N,N'-Diethylhydrazine	
U087	3288 - 58 - 2	O,O-Diethyl S-methyl dithiophosphate	
U088	84 - 66 - 2	Diethyl phthalate	
U089	56 - 53 - 1	Diethylstilbesterol	
U090	94 - 58 - 6	Dihydrosafrole	
U091	119 - 90 - 4	3,3'-Dimethoxybenzidine	
U092	124 - 40 - 3	Dimethylamine	I
U093	60 - 11 - 7	p-Dimethylaminoazobenzene	
U094	57 - 97 - 6	7,12-Dimethylbenz[a]anthracene	
U095	119 - 93 - 7	3,3'-Dimethylbenzidine	
U096	80 - 15 - 9	alpha,alpha-Dimethylbenzylhydroperoxide	R
U097	79 - 44 - 7	Dimethylcarbamoyl chloride	
U098	57 - 14 - 7	1,1-Dimethylhydrazine	
U099	540 - 73 - 8	1,2-Dimethylhydrazine	
U101	105 - 67 - 9	2,4-Dimethylphenol	
U102	131 - 11 - 3	Dimethyl phthalate	
U103	77 - 78 - 1	Dimethyl sulfate	

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
U105	121 - 14 - 2	2,4-Dinitrotoluene	
U106	606 - 20 - 2	2,6-Dinitrotoluene	
U107	117 - 84 - 0	Di-n-octyl phthalate	
U108	123 - 91 - 1	1,4-Dioxane	
U109	122 - 66 - 7	1,2-Diphenylhydrazine	
U110	142 - 84 - 7	Dipropylamine	I
U111	621 - 64 - 7	Di-n-propylnitrosamine	
U041	106 - 89 - 8	Epichlorohydrin	
U001	75 - 07 - 0	Ethanal	I
U404	121 - 44 - 8	Ethanamine, N,N-diethyl-	
U174	55 - 18 - 5	Ethanamine, N-ethyl-N-nitroso-	
U155	91 - 80 - 5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-	
U067	106 - 93 - 4	Ethane, 1,2-dibromo-	
U076	75 - 34 - 3	Ethane, 1,1-dichloro-	
U077	107 - 06 - 2	Ethane, 1,2-dichloro-	
U131	67 - 72 - 1	Ethane, hexachloro-	
U024	111 - 91 - 1	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-	
U117	60 - 29 - 7	Ethane, 1,1'-oxybis-	I
U025	111 - 44 - 4	Ethane, 1,1'-oxybis[2-chloro-	
U184	76 - 01 - 7	Ethane, pentachloro-	
U208	630 - 20 - 6	Ethane, 1,1,1,2-tetrachloro-	
U209	79 - 34 - 5	Ethane, 1,1,2,2-tetrachloro-	
U218	62 - 55 - 5	Ethanethioamide	
U226	71 - 55 - 6	Ethane, 1,1,1-trichloro-	
U227	79 - 00 - 5	Ethane, 1,1,2-trichloro-	
U410	59669 - 26 - 0	Ethanimidothioic acid, N,N'-[thiobis[(methylimino)carbonyloxy]]bis-, dimethyl ester	
U394	305888 - 43 - 1	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2- oxo-, methyl ester.	
U359	110 - 80 - 5	Ethanol, 2-ethoxy-	
U173	1116 - 54 - 7	Ethanol, 2,2'-(nitrosoimino)bis-	
U395	5952 - 26 - 1	Ethanol, 2,2'-oxybis-, dicarbomate.	
U004	98 - 86 - 2	Ethanone, 1-phenyl-	
U043	75 - 01 - 4	Ethene, chloro-	
U042	110 - 75 - 8	Ethene, (2-chloroethoxy)-	
U078	75 - 35 - 4	Ethene, 1,1-dichloro-	
U079	156 - 60 - 5	Ethene, 1,2-dichloro-, (E)-	
U210	127 - 18 - 4	Ethene, tetrachloro-	
U228	79 - 01 - 6	Ethene, trichloro-	
U112	141 - 78 - 6	Ethyl acetate	I
U113	140 - 88 - 5	Ethyl acrylate	I
U238	51 - 79 - 6	Ethyl carbamate (urethane)	
U117	60 - 29 - 7	Ethyl ether	I

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
U114	111 - 54 - 6	Ethylenebisdithiocarbamic acid, salts & esters	
U067	106 - 93 - 4	Ethylene dibromide	
U077	107 - 06 - 2	Ethylene dichloride	
U359	110 - 80 - 5	Ethylene glycol monoethyl ether	
U115	75 - 21 - 8	Ethylene oxide	I, T
U116	96 - 45 - 7	Ethylenethiourea	
U076	75 - 34 - 3	Ethylidene dichloride	
U118	97 - 63 - 2	Ethyl methacrylate	
U119	62 - 50 - 0	Ethyl methanesulfonate	
U120	206 - 44 - 0	Fluoranthene	
U122	50 - 00 - 0	Formaldehyde	
U123	64 - 18 - 6	Formic acid	C, T
U124	110 - 00 - 9	Furan	I
U125	98 - 01 - 1	2-Furancarboxaldehyde	I
U147	108 - 31 - 6	2,5-Furandione	
U213	109 - 99 - 9	Furan, tetrahydro-	I
U125	98 - 01 - 1	Furfural	I
U124	110 - 00 - 9	Furfuran	I
U206	18883 - 66 - 4	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-	
U206	18883 - 66 - 4	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)-carbonyl]amino]-	
U126	765 - 34 - 4	Glycidylaldehyde	
U163	70 - 25 - 7	Guanidine, N-methyl-N’-nitro-N-nitroso-	
U127	118 - 74 - 1	Hexachlorobenzene	
U128	87 - 68 - 3	Hexachlorobutadiene	
U130	77 - 47 - 4	Hexachlorocyclopentadiene	
U131	67 - 72 - 1	Hexachloroethane	
U132	70 - 30 - 4	Hexachlorophene	
U243	1888 - 71 - 7	Hexachloropropene	
U133	302 - 01 - 2	Hydrazine	R, T
U086	1615 - 80 - 1	Hydrazine, 1,2-diethyl-	
U098	57 - 14 - 7	Hydrazine, 1,1-dimethyl-	
U099	540 - 73 - 8	Hydrazine, 1,2-dimethyl-	
U109	122 - 66 - 7	Hydrazine, 1,2-diphenyl-	
U134	7664 - 39 - 3	Hydrofluoric acid	C, T
U134	7664 - 39 - 3	Hydrogen fluoride	C, T
U135	7783 - 06 - 4	Hydrogen sulfide	
U135	7783 - 06 - 4	Hydrogen sulfide H_2S	
U096	80 - 15 - 9	Hydroperoxide, 1-methyl-1-phenylethyl-	R
U116	96 - 45 - 7	2-Imidazolidinethione	
U137	193 - 39 - 5	Indeno[1,2,3-cd]pyrene	
U190	85 - 44 - 9	1,3-Isobenzofurandione	
U140	78 - 83 - 1	Isobutyl alcohol	I, T
U141	120 - 58 - 1	Isosafrole	

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
U142	143 - 50 - 0	Kepone	
U143	303 - 34 - 4	Lasiocarpine	
U144	301 - 04 - 2	Lead acetate	
U146	1335 - 32 - 6	Lead, bis(acetato-O)tetrahydroxytri-	
U145	7446 - 27 - 7	Lead phosphate	
U146	1335 - 32 - 6	Lead subacetate	
U129	58 - 89 - 9	Lindane	
U163	70 - 25 - 7	MNNG	
U147	108 - 31 - 6	Maleic anhydride	
U148	123 - 33 - 1	Maleic hydrazide	
U149	109 - 77 - 3	Malononitrile	
U150	148 - 82 - 3	Melphalan	
U151	7439 - 97 - 6	Mercury	
U152	126 - 98 - 7	Methacrylonitrile	I, T
U092	124 - 40 - 3	Methanamine, N-methyl-	I
U029	74 - 83 - 9	Methane, bromo-	
U045	74 - 87 - 3	Methane, chloro-	I, T
U046	107 - 30 - 2	Methane, chloromethoxy-	
U068	74 - 95 - 3	Methane, dibromo-	
U080	75 - 09 - 2	Methane, dichloro-	
U075	75 - 71 - 8	Methane, dichlorodifluoro-	
U138	74 - 88 - 4	Methane, iodo-	
U119	62 - 50 - 0	Methanesulfonic acid, ethyl ester	
U211	56 - 23 - 5	Methane, tetrachloro-	
U153	74 - 93 - 1	Methanethiol	I, T
U225	75 - 25 - 2	Methane, tribromo-	
U044	67 - 66 - 3	Methane, trichloro-	
U121	75 - 69 - 4	Methane, trichlorofluoro-	
U036	57 - 74 - 9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4, 7,7a-hexahydro-	
U154	67 - 56 - 1	Methanol	I
U155	91 - 80 - 5	Methapyrilene	
U142	143 - 50 - 0	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-	
U247	72 - 43 - 5	Methoxychlor	
U154	67 - 56 - 1	Methyl alcohol	I
U029	74 - 83 - 9	Methyl bromide	
U186	504 - 60 - 9	1-Methylbutadiene	I
U045	74 - 87 - 3	Methyl chloride	I, T
U156	79 - 22 - 1	Methyl chlorocarbonate	I, T
U226	71 - 55 - 6	Methyl chloroform	
U157	56 - 49 - 5	3-Methylcholanthrene	
U158	101 - 14 - 4	4,4'-Methylenebis(2-chloroaniline)	
U068	74 - 95 - 3	Methylene bromide	

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
U080	75 - 09 - 2	Methylene chloride	
U159	78 - 93 - 3	Methyl ethyl ketone (MEK)	I, T
U160	1338 - 23 - 4	Methyl ethyl ketone peroxide	R, T
U138	74 - 88 - 4	Methyl iodide	
U161	108 - 10 - 1	Methyl isobutyl ketone	I
U162	80 - 62 - 6	Methyl methacrylate	I, T
U161	108 - 10 - 1	4-Methyl-2-pentanone	I
U164	56 - 04 - 2	Methylthiouracil	
U010	50 - 07 - 7	Mitomycin C	
U059	20830 - 81 - 3	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-	
U167	134 - 32 - 7	1-Naphthalenamine	
U168	91 - 59 - 8	2-Naphthalenamine	
U026	494 - 03 - 1	Naphthalenamine, N,N'-bis(2-chloroethyl)-	
U165	91 - 20 - 3	Naphthalene	
U047	91 - 58 - 7	Naphthalene, 2-chloro-	
U166	130 - 15 - 4	1,4-Naphthalenedione	
U236	72 - 57 - 1	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl) bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt	
U166	130 - 15 - 4	1,4-Naphthoquinone	
U167	134 - 32 - 7	alpha-Naphthylamine	
U168	91 - 59 - 8	beta-Naphthylamine	
U217	10102 - 45 - 1	Nitric acid, thallium(1+) salt	
U169	98 - 95 - 3	Nitrobenzene	I, T
U170	100 - 02 - 7	p-Nitrophenol	
U171	79 - 46 - 9	2-Nitropropane	I, T
U172	924 - 16 - 3	N-Nitrosodi-n-butylamine	
U173	1116 - 54 - 7	N-Nitrosodiethanolamine	
U174	55 - 18 - 5	N-Nitrosodiethylamine	
U176	759 - 73 - 9	N-Nitroso-N-ethylurea	
U177	684 - 93 - 5	N-Nitroso-N-methylurea	
U178	615 - 53 - 2	N-Nitroso-N-methylurethane	
U179	100 - 75 - 4	N-Nitrosopiperidine	
U180	930 - 55 - 2	N-Nitrosopyrrolidine	
U181	99 - 55 - 8	5-Nitro-o-toluidine	
U193	1120 - 71 - 4	1,2-Oxathiolane, 2,2-dioxide	
U058	50 - 18 - 0	2H-1,3,2-Oxazaphosphorin-2-amine,N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide	
U115	75 - 21 - 8	Oxirane	I, T
U126	765 - 34 - 4	Oxiranecarboxyaldehyde	
U041	106 - 89 - 8	Oxirane, (chloromethyl)-	
U182	123 - 63 - 7	Paraldehyde	

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
U183	608 - 93 - 5	Pentachlorobenzene	
U184	76 - 01 - 7	Pentachloroethane	
U185	82 - 68 - 8	Pentachloronitrobenzene (PCNB)	
See F027	87 - 86 - 5	Pentachlorophenol	
U161	108 - 10 - 1	Pentanol, 4-methyl-	
U186	504 - 60 - 9	1,3-Pentadiene	I
U187	62 - 44 - 2	Phenacetin	
U188	108 - 95 - 2	Phenol	
U048	95 - 57 - 8	Phenol, 2-chloro-	
U039	59 - 50 - 7	Phenol, 4-chloro-3-methyl-	
U081	120 - 83 - 2	Phenol, 2,4-dichloro-	
U082	87 - 65 - 0	Phenol, 2,6-dichloro-	
U089	56 - 53 - 1	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl) bis-, (E)-	
U101	105 - 67 - 9	Phenol, 2,4-dimethyl-	
U052	1319 - 77 - 3	Phenol, methyl-	
U132	70 - 30 - 4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-	
U411	114 - 26 - 1	Phenol, 2-(1-methylethoxy)-, methylcarbamate.	
U170	100 - 02 - 7	Phenol, 4-nitro-	
See F027	87 - 86 - 5	Phenol, pentachloro-	
See F027	58 - 90 - 2	Phenol, 2,3,4,6-tetrachloro-	
See F027	95 - 95 - 4	Phenol, 2,4,5-trichloro-	
See F027	88 - 06 - 2	Phenol, 2,4,6-trichloro-	
U150	148 - 82 - 3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-	
U145	7446 - 27 - 7	Phosphoric acid, lead(2+) salt (2:3)	
U087	3288 - 58 - 2	Phosphorodithioic acid, O,O-diethyl S-methyl ester	
U189	1314 - 80 - 3	Phosphorus sulfide	R
U190	85 - 44 - 9	Phthalic anhydride	
U191	109 - 06 - 8	2-Picoline	
U179	100 - 75 - 4	Piperidine, 1-nitroso-	
U192	23950 - 58 - 5	Pronamide	
U194	107 - 10 - 8	1-Propanamine	I, T
U111	621 - 64 - 7	1-Propanamine, N-nitroso-N-propyl-	
U110	142 - 84 - 7	1-Propanamine, N-propyl-	I
U066	96 - 12 - 8	Propane, 1,2-dibromo-3-chloro-	
U083	78 - 87 - 5	Propane, 1,2-dichloro-	
U149	109 - 77 - 3	Propanedinitrile	
U171	79 - 46 - 9	Propane, 2-nitro-	I, T
U027	108 - 60 - 1	Propane, 2,2'-oxybis[2-chloro-	
U193	1120 - 71 - 4	1,3-Propane sultone	
See F027	93 - 72 - 1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	
U235	126 - 72 - 7	1-Propanol, 2,3-dibromo-, phosphate (3:1)	
U140	78 - 83 - 1	1-Propanol, 2-methyl-	I, T
U002	67 - 64 - 1	2-Propanone	I

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
U007	79 - 06 - 1	2-Propenamide	
U084	542 - 75 - 6	1-Propene, 1,3-dichloro-	
U243	1888 - 71 - 7	1-Propene, 1,1,2,3,3,3-hexachloro-	
U009	107 - 13 - 1	2-Propenenitrile	
U152	126 - 98 - 7	2-Propenenitrile, 2-methyl-	I, T
U008	79 - 10 - 7	2-Propenoic acid	I
U113	140 - 88 - 5	2-Propenoic acid, ethyl ester	I
U118	97 - 63 - 2	2-Propenoic acid, 2-methyl-, ethyl ester	
U162	80 - 62 - 6	2-Propenoic acid, 2-methyl-, methyl ester	I, T
U373	122 - 42 - 9	Propham.	
U411	114 - 26 - 1	Propoxur.	
U387	52888 - 80 - 9	Prosulfocarb.	
U194	107 - 10 - 8	n-Propylamine	I, T
U083	78 - 87 - 5	Propylene dichloride	
U148	123 - 33 - 1	3,6-Pyridazinedione, 1,2-dihydro-	
U196	110 - 86 - 1	Pyridine	
U191	109 - 06 - 8	Pyridine, 2-methyl-	
U237	66 - 75 - 1	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-	
U164	56 - 04 - 2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-	
U180	930 - 55 - 2	Pyrrolidine, 1-nitroso-	
U200	50 - 55 - 5	Reserpine	
U201	108 - 46 - 3	Resorcinol	
U202	81 - 07 - 2	Saccharin, & salts	
U203	94 - 59 - 7	Safrole	
U204	7783 - 00 - 8	Selenious acid	
U204	7783 - 00 - 8	Selenium dioxide	
U205	7488 - 56 - 4	Selenium sulfide	
U205	7488 - 56 - 4	Selenium sulfide SeS_2	R, T
U015	115 - 02 - 6	L-Serine, diazoacetate (ester)	
See F027	93 - 72 - 1	Silvex (2,4,5-TP)	
U206	18883 - 66 - 4	Streptozotocin	
U103	77 - 78 - 1	Sulfuric acid, dimethyl ester	
U189	1314 - 80 - 3	Sulfur phosphide	R
See F027	93 - 76 - 5	2,4,5-T	
U207	95 - 94 - 3	1,2,4,5-Tetrachlorobenzene	
U208	630 - 20 - 6	1,1,1,2-Tetrachloroethane	
U209	79 - 34 - 5	1,1,2,2-Tetrachloroethane	
U210	127 - 18 - 4	Tetrachloroethylene	
See F027	58 - 90 - 2	2,3,4,6-Tetrachlorophenol	
U213	109 - 99 - 9	Tetrahydrofuran	I
U214	563 - 68 - 8	Thallium(I) acetate	
U215	6533 - 73 - 9	Thallium(I) carbonate	
U216	7791 - 12 - 0	Thallium(I) chloride	
U216	7791 - 12 - 0	Thallium chloride TlCl	

EPA Hazardous Waste No.	CAS Number	Substance	Hazard Code *
U217	10102 - 45 - 1	Thallium(I) nitrate	
U218	62 - 55 - 5	Thioacetamide	
U410	59669 - 26 - 0	Thiodicarb.	
U153	74 - 93 - 1	Thiomethanol	I, T
U244	137 - 26 - 8	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-	
U409	23564 - 05 - 8	Thiophanate-methyl.	
U219	62 - 56 - 6	Thiourea	
U244	137 - 26 - 8	Thiram	
U220	108 - 88 - 3	Toluene	
U221	25376 - 45 - 8	Toluenediamine	
U223	26471 - 62 - 5	Toluene diisocyanate	R, T
U328	95 - 53 - 4	o-Toluidine	
U353	106 - 49 - 0	p-Toluidine	
U222	636 - 21 - 5	o-Toluidine hydrochloride	
U389	2330 - 17 - 5	Triallate.	
U011	61 - 82 - 5	1H-1,2,4-Triazol-3-amine	
U227	79 - 00 - 5	1,1,2-Trichloroethane	
U228	79 - 01 - 6	Trichloroethylene	
U121	75 - 69 - 4	Trichloromonofluoromethane	
See F027	95 - 95 - 4	2,4,5-Trichlorophenol	
See F027	88 - 06 - 2	2,4,6-Trichlorophenol	
U404	121 - 44 - 8	Triethylamine	
U234	99 - 35 - 4	1,3,5-Trinitrobenzene	R, T
U182	123 - 63 - 7	1,3,5-Trioxane, 2,4,6-trimethyl-	
U235	126 - 72 - 7	Tris(2,3-dibromopropyl) phosphate	
U236	72 - 57 - 1	Trypan blue	
U237	66 - 75 - 1	Uracil mustard	
U176	759 - 73 - 9	Urea, N-ethyl-N-nitroso-	
U177	684 - 93 - 5	Urea, N-methyl-N-nitroso-	
U043	75 - 01 - 4	Vinyl chloride	
U248	81 - 81 - 2	Warfarin, & salts, when present at concentrations of 0.3% or less	
U239	1330 - 20 - 7	Xylene	I
U200	50 - 55 - 5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-	
U249	1314 - 84 - 7	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less	

* Hazard Codes

I	Ignitable Waste	E	Toxicity Characteristic Waste
C	Corrosive Waste	H	Acutely Hazardous Waste
R	Reactive Waste	T	Toxic Waste

Appendix B

Commercial Hazardous Waste Facilities

ALABAMA

Waste Management, Inc. of Emelle, Alabama
PO Box 55
Emelle, AL 35459
(205) 652-9721
Contact: Roger Henson
Waste Handled: Most hazardous wastes except radioactives, explosives, biological, or pathogenics
Services: Fixation, landfilling, fuel blending, storage, PCB
EPA I.D. No. ALD000622464

ARIZONA

Westates Carbon-Arizona
Parker Reactivation Facility
2523 Mutahar Street
Parker, AZ 85344
(928) 669-5758
EPA I.D. AZD982441263

ARKANSAS

Teris
309 American Circle
El Dorado, AR 717130
Contact: Karen Barnett
(870) 863-7173
Waste Handled: Waste oils and solvents, hydrocarbons, pesticides, herbicides, and insecticides
Services: Incineration
EPA I.D. No. ARD069748192

Rineco
819 Vulcan Rd.
PO Box 729
Benton, AR 72018
Contact: Wes Holland
(800) 377-4692 ext. 343
Waste Handled: Waste fuel
Services: Transportation, remediation, tank cleaning, analytical services, drum recycling, employee training
EPA I.D. No.ARD981057870

ILLINOIS

Onyx Environmental Services
700 E. Butterfield Road, Suite 201
Lombard, IL 60148
(630) 218-1500
Services: Incineration
EPA I.D. Number ILD098642424

KANSAS

Clean Harbors of Coffeyville, LLC.
Highway 169 North
Industrial Park Road
Coffeyville, KS 67337
(620) 252-1203
Services: PCB Transformer Decontamination
EPA I.D. Number KSD981506025

Ash Grove Cement Co.
PO Box 519
Chanute, KS 66720
Contact: Bruce Newell
(620) 431-4500
Services: Fuel burning in cement kiln
EPA I.D. Number KSD031203318

Ashland Distribution
5420 Speaker Road
Kansas City, KS 66106
Contact: John Ruth
(913) 621-7494 ext. 228
Waste Handled: Solvents
Services: Storage
EPA I.D. Number KSD057889313

Barton Solvents, Inc.
201 South Cedar
PO Box 366
Valley Center, KS 67147
Contact: Steven Stewart
(620) 755-2305
Waste Handled: Solvents
EPA I.D. Number KSD096537857

Clean Harbors Environmental Services, Inc.
13723 W. 108th
Lenexa, KS 66215
Contact: Dave Cochran
(913) 491-4051
Waste Handled: Most hazardous wastes except radioactives
Services: Incineration, treatment, recycling, fuels blending
EPA I.D. Number ILD000608471

Clean Harbors of Kansas, LLC
2549 New York
Wichita, KS 67219
(316) 269-7400
Services: Solvent recovery, blending solvents for fuel, dry cleaning waste, wastewater, waste analysis, storage
EPA I.D. Number KSD007246846

Safety-Kleen Systems, Inc.
600 East Trail
Dodge City, KS 67801
Contact: Mark Jordan
(620) 225-5016
Waste Handled: Solvents
EPA I.D. Number KSD980686844

Safety-Kleen Systems, Inc.
4801 West Irving
Wichita, KS 67209
Contact: Mark Jordan
(316) 942-5001
EPA I.D. Number KSD000809723

Systech Environmental Corporation
South Cement Road, P.O. Box 111
Fredonia, KS 66736
Contact: Ms. Jackie Carpenter
(316) 378-4451
Waste Handled: Solvents
EPA I.D. Number KSD980633259

Univar USA Inc.
2041 North Mosley
Wichita, KS 67214
Contact: Shauna Asbill/Ray Cook
(800) 909-4897
Waste Handled: Solvents, liquid & solid waste
Services: Incineration, landfill, fuel blending, waste- water treatment, labpacks

KENTUCKY

American Environmental Services, Inc.
1689 Shar-Cal Road
Calvert City, KY 42029
Contact: Mark Roggy
(816) 419-7691
Fax: (816) 734-2708
Services: fuels, landfill, incineration, Lab Packs
EPA I.D. Number KYD985073196

LOUISIANA

Clean Harbors of Colfax, LLC
3763 Highway 471
Colfax, LA 71417
Contact: Jim Creekmore
(800) 628-3443
Services: Thermally treat explosive/reactive materials, solids, sludges liquids, gases; store, prepare and treat energetic/reactive waste streams
EPA I.D. Number LAD981055791

MISSOURI

Hauser & Miller Company
10950 Lin-Valle
St.Louis, MO 63123
Contact: Tom Wuennenberg
(314) 487-1311
Waste Handled: Precious metals
Services: Recovery

Heritage Environmental Services
8525 N.E. 38th Street
Kansas City, MO 64161
Contact: John Dillow
(816) 454-9441
Waste Handled: Liquids, sludges, solvents, small quantity drums, cyanides
Services: Treatment, resource recovery, remed-iation
EPA I.D. Number MOD981505555

Phillip Services
700 Mulberry
Kansas City, MO 64101
Contact: Steve Johnson
(816) 474-1391
Waste Handled: Solvents
Services: Reclamation, disposal, fuel blending
EPA I.D. Number MOD000610766

Safety-Kleen Systems, Inc.
901 S. Yuma
Independence, MO 64056
(816) 796-9660
EPA I.D. Number MOD980873564

Safety-Kleen Systems, Inc.
734 Northwest Bypass 66
Springfield, MO 65802
(417) 869-1179
EPA I.D. Number MOD000669069

Univar USA Inc.
2000 Guinotte
Kansas City, MO 64120
(800) 909-4897
Contact: Judy Jensen/Stacy Webb
Waste Handled: Solvents, liquid and solid waste
Services: Incineration, landfill, fuel blending, waste water treatment, labpacks
EPA I.D. Number MOD007158157

Univar USA Inc.
220 South Barnes
Springfield, MO 65802
(800) 909-4897
Contact: Judy Jensen/Stacy Webb
Waste Handled: Solvents, liquid and solid waste
Services: Incineration, landfill, fuel blending, waste water treatment, labpacks

Waste Express, Inc.
6300 Stadium Drive
Kansas City, MO 64129
Contact: Stephan R. Clancy
(816) 924-5884 ext. 421
Waste Handled: Heavy metals except arsenic, ballasts, fluorescent lights, paints, waste oil, waste solvents, lab packs, LTLs
EPA I.D. Number MOD981123391

NEBRASKA

Univar USA, Inc.
3002 F Street
Omaha, NE 68107-1599
Contact: Jeanette Dahlem
(402) 733-7007
Services: Solvents recovery, liquid & solid waste incineration, landfill, lab packs, wastewater treatment
EPA I.D. Number NED000809483

Safety-Kleen Systems, Inc.
2700 W. Second St.
Grand Island, NE 68803
(308) 384-1616
EPA I.D. Number NED053316535

OKLAHOMA

Safety-Kleen Systems, Inc.
16319 E. Marshall
Tulsa, OK 74116
(918) 234-5185
EPA I.D. Number OKD000763821

Clean Harbor Lone Mountain, LLC
Route 2, PO Box 170
Waynoka, OK 73860
Contact: Gary McCuistion
(580) 697-3500
Waste Handled: Wastewaters, contaminated soils, incineration ash
Services: Landfill
EPA I.D. Number OKDO65438376

TEXAS

GNI Group
Box 7809
Corpus Christi, TX 78467
Contact: Facility Manager
(512) 852-8284
Waste Handled: Aqueous materials
Services: Disposal well
EPA I.D. Number TXD000001016

Appendix C

Used Oil Collectors/Transporters

Brown/Dupree Oil Company, Inc.
111 E. Kansas Street
Ulysses, KS
Contact: Jerry Brown
(620) 356-1702

Heritage Crystal Clean, LLC.
2250 Point Boulevard, Suite 250
Elgin, IL 60123
(847) 836-5670
FAX: (847) 836-5677

Midland Refining Company
5755 North Broadway
Wichita, KS 67219
Contact: Roseanne Harpster
(316) 838-4315

RS Used Oil Services
16 Central Avenue
Kansas City, KS 66118
Contact: Kevin White
(913) 279-0000

Safety Kleen Systems, Inc.
600 East Trail
Dodge City, KS 67801
Contact: Don Cain
(316) 832-1778

Safety-Kleen Systems, Inc.
576 S 260th Street
Pittsburg, KS 66762
Contact: Richard Brown
(620) 232-6125

Safety-Kleen Systems, Inc.
PO Box 4410
Wichita, KS 67204
Contact: Don Cain
(316) 832-1778

Universal Lubricants, Inc.
2824 N. Ohio
Wichita, KS 67201
Contact: Gary Cain
(316) 832-0151

Waste Express, Inc.
6300 Stadium Drive
Kansas City, MO 64129
Contact: Stephan R. Clancy
(816) 924-5884 ext. 421
EPA I.D. Number MOD981123391

Appendix D

Battery and Electronics Recyclers

Apollan Computers
725 E Lincoln Street
Wichita, KS 67211
(316) 264-2329
Fax (316) 264-0283

The Big Green Box
421 E. Commercial Street
Anaheim, CA 92801
(714) 879-2067
Fax: (714) 278-9356
www.biggreenbox.com

Envirocycle
899 Assembly Place
Hallstead, PA 18822
Contact: Greg Voorhees
(570) 879-2862 ext. 308

Exide Technology
Box 156
Forest City, MO 64451
Contact: Steve Doughty
(660) 446-3321 ext. 11

Heritage Crystal Clean, LLC.
2250 Point Boulevard, Suite 250
Elgin, IL 60123
(847) 836-5670
Fax: (847) 836-5677

Madewell & Madewell, Inc.
PO Box 386
Jones, OK 73049
Contact: Hugh Madewell
(405) 399-2201

Onyx Environmental Services
700 E. Butterfield Road, Suite 201
Lombard, IL 60148
(630) 218-1500
Services: Incineration
EPA I.D. Number ILD098642424

Sanders Lead Company, Inc.
PO Drawer 707
Troy, AL 36081
(334) 566-1563

The Surplus Exchange
1107 Hickory
Kansas City, MO 64101
(816) 472-0444

Toxco Inc.
8090 Lancaster Newark Rd.
Baltimore, OH 43105
Contact: Ed Green
(877) 461-2345
www.toxco.com

United Recyclers Industries, Inc.
3700 North Runge Ave
Franklin Park, IL 61008
(847) 455-8800 or (800) 323-1575

Waste Express, Inc.
6300 Stadium Drive
Kansas City, MO 64129
Contact: Stephan R. Clancy
(816) 924-5884 ext. 421
EPA I.D. Number MOD981123391

Appendix E

Sign, Label, and Placard Suppliers

Hazardous Materials Publishing Co.
243 West Main Street
PO Box 308
Kutztown, PA 19530
(610) 683-6721
Fax: (610) 683-3171

Label Master
5724 North Pulaski Road
Chicago, Illinois 60646
(800) 621-5808
FaxL (800) 723-4327

Legible Signs, Incorporated
2221 Nimtz Road
Rockford, IL 61111
(800) 435-4177
Fax: (815) 654-9679

Stonehouse Signs, Inc.
5550 West 60th Avenue
PO Box 546
Arvada, CO 80001
(800) 525-0456
Fax: (800) 255-0883

Appendix F

Container Suppliers

A-1 Barrel Company, LLC
6035 Kansas Avenue
Kansas City, KS 66111
Contact: Tom Wyman
(913) 299-3995

Environmental Systems
9900 Pflumm Road #38
Lenexa, KS 66215
Contact: Jerry Weaver ex. 201
(913) 888-6060

Coffeyville Re-Con, Inc.
2410 Brown Street
Coffeyville, KS 67337
Contact: Mike Kudrick
(620) 251-1520

Greif Brothers Corporation
3341 North 7th Street Trfy
Kansas City, KS 66115
Contact: Terry Moege
(913) 371-0828

Greif Brothers Corporation
Strother Field Industrial Park
7604 Railroad Ave.
Winfield, KS 67156
(620) 221-2330

Haz-Mat Response, Inc.
1203C South Parker
Olathe, KS 66061
Contact: Jack Stockdale
(620) 729-9242

Scott Barrel Company, Inc.
939 Cheyenne Street
Kansas City, KS 66105
Contact: Larry Scott
(913) 342-2290

SDS, Incorporated
520 North Industrial Road
El Dorado, KS 67042
Contact: Steve Shannon
(316) 321-6570

Univar USA
2000 Guinotte
Kansas City, MO 64120
(816) 842-6240

Appendix G

Mercury Related Wastes

The following companies handle fluorescent lighting tubes. Some of these companies recycle fluorescent light ballasts.

Onyx Electronics Recycling
5736 W. Jefferson Street
Phoenix, AZ 85043
(602) 233-2955
FAX: (602) 415-3030
Contact: Mike Berens
(262) 243-8900
www.onyxes.com

Onyx Electronics Recycling
1275 Mineral Springs Drive
Port Washington, WI 53074
(262) 243-8900
FAX (262) 284-3775
Toll Free (800) 556-5267
Contact: Mike Berens
(262) 243-8900
www.onyxes.com

Heritage Crystal Clean, LLC.
2250 Point Boulevard
Suite 250
Elgin, Illinois 60123
(847) 836-5670
FAX: (847) 836-5677

Onyx Electronics Recycling
218 Canton Street
Stroughton, MA 02072
(781)341-6080
FAX: (781) 341-6088
Toll Free (800) 556-5267
Contact: Mike Berens
(262) 243-8900
www.onyxes.com

Onyx Electronics Recycling
342 Marpan Lane
Tallahassee, FL 32305
(866) 877-8299
FAX: (850 878_3349
Toll Free (800) 556-5267
Contact: Mike Berens
(262) 243-8900
www.onyxes.com

Appendix H

Specific Wastes

NICKEL-CADMIUM BATTERIES

Heritage Crystal Clean, LLC.
2250 Point Boulevard
Suite 250
Elgin, IL 60123
(847) 836-5670
Fax: (847) 836-5677

INMETCO
PO Box 720
245 Portersville Road
Ellwood City, PA 16117-0720
Contact: Jim Cimperman
(724) 758-5515
Fax: (724) 758-2845

FREON/HALON

RemTec International
6150 Merger Dr.
Holland, OH 43528
(888) 873-6832
Fax: (419) 867-9901
gary.stofan@remtec.net
www.remtec.net

COMPRESSED GAS CYLINDERS

All Safe Fire and Security
915 Washington Avenue North
Minneapolis, MN 55401-1091
(612) 332-3473
Fax: (612) 321-9177
allsafe@allfiretest.com

Appendix I

Acronyms Commonly Used in State and Federal Environmental Regulations

ACM	Asbestos-Containing Material
AEA	Atomic Energy Act
BAR	Bureau of Air and Radiation
BWM	Bureau of Waste Management
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
CWA	Clean Water Act
DOT	United States Department of Transportation
EPA	United States Environmental Protection Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
HSWA	Hazardous and Solid Waste Amendments of 1984
K.A.R.	Kansas Administrative Regulations
K.S.A.	Kansas Statutes Annotated
KDHE	Kansas Department of Health and Environment
LDR	Land Disposal Restrictions
MSDS	Material Safety Data Sheets
MSW	Municipal Solid Waste
MSWLF	Municipal Solid Waste Landfill
NIOSH	National Institute of Occupational Safety and Health
PCBs	Polychlorinated Biphenyls
POTW	Publicly Owned Treatment Works
PPE	Personal Protection Equipment
RCRA	Resource Conservation and Recovery Act of 1976
SARA	Superfund Amendments and Reauthorization Act
SEP	Supplemental Environmental Projects
TCLP	Toxicity Characteristic Leaching Procedure
TRI	Toxic Release Inventory
TSCA	Toxic Substances Control Act of 1976
TSD	Treatment, Storage, or Disposal Facility

Appendix J

Helpful Contact Information

Kansas Department of Health and Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366
http://www.kdheks.gov/waste/

Main Telephone Number:	785-296-1600
Fax Number	785-296-8909
Jim Rudeen, Chief of Waste Reduction, Compliance, & Enforcement Section	785-296-1603
Rebecca Wenner, Chief of Compliance and Enforcement Unit	785-296-1604

Kansas Department of Health and Environment
Division of Health and Environmental Laboratories
Forbes Field, Building 740
Topeka, KS 66620-0001
www.kdheks.gov/labs/

Main Telephone Number	785-296-1620
Fax Number	785-296-1641

Other State Environmental Agencies

State Agency	Telephone	Internet Address
Alabama Department of Environmental Management	334-271-7700	www.adem.state.al.us
Arkansas Department of Environmental Quality	501-682-0833	www.adeq.state.ar.us
Colorado Department of Public Health and Environment	888-569-3300	www.cdphe.state.co.us
Illinois Environmental Protection Agency	217-785-8604	www.epa.state.il.us
Indiana Department of Environmental Management	800-451-6027	www.in.gov/idem
Louisiana Department of Environmental Quality	225-219-3245	www.deq.state.la.us
Michigan Department of Environmental Quality	517-335-2690	www.michigan.gov/deq
Missouri Department of Natural Resources	800-361-4827	www.dnr.mo.gov
Nebraska Department of Environmental Quality	402-471-2186	www.deq.state.ne.us
Oklahoma Department of Environmental Quality	405-702-5100	www.deq.state.ok.us
Texas Commission on Environmental Quality	512-239-6300	www.tceq.state.tx.us
Utah Department of Environmental Quality	801-538-6170	www.deq.utah.gov
Wisconsin Department of Natural Resources	800-943-0003	www.dnr.state.wi.us